River des Peres Whole Body Contact Recreation Use Attainability Analysis

July 2005

Prepared for: METROPOLITAN ST. LOUIS SEWER DISTRICT 2350 Market Street

St. Louis, Missouri 63103

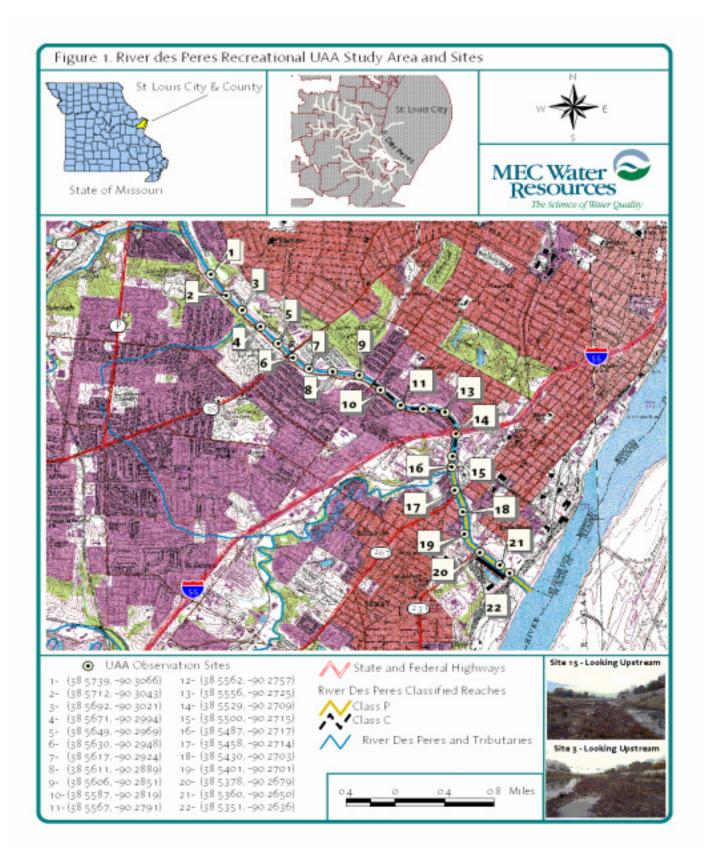
Prepared by:
MEC WATER RESOURCES, INC.
1000 North College Avenue, Suite 4
Columbia, Missouri 65201

Data Sheet A - Water Body Identification

| Water Body Name: River Des Peres |
|--|
| (from USGS 7.5' quad) |
| 8-digit HUC: 07140101 |
| Missouri WBID # 1710 & 1711 |
| County: St. Louis City |
| Upstream Legal Description: N/A French Survey |
| Downstream Legal Description: N/A French Survey |
| Upstream Coordinates: 38.57394, -90.30666 |
| (USG 84, dd,dddd) |
| Downstream Coordinates: 38.53492, -90.26352 |
| (USG 84, dd.dddd) |
| Discharger Facility Name(s): N/A |
| Discharger Permit Number(s): N/A |
| Number of Sites Evaluated: Twenty-two (22) |
| Name of Surveyor and Telephone Number: Trent Stober (573) 443-4100 |
| Organization: MEC Water Resources, Inc. |
| Position: Senior Project Manager |

l, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

| Signed: | + M | Date: 7/7/05 |
|--|-------------|--------------|
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| Missouri WBID #: | my lassified | | Site Location Descr | intion | |
|---|---|--------------------|---|---|--|
| Site Lat/Long: 07346 | 47 / 42 72004 /0 | 72-1 | T-1 Rue des Re | | |
| Date & Time: 10/2c/ | 04 /030 | | Facility Name: | ~s | |
| Personnel: Con/NM | | | Permit Number: | | |
| Current Weather Cond | litions: Dominet | | | s for Past 7 days: o | |
| Photo Ids: Upstream | | strea | am: 4 | Other: | Proast |
| | | | | other. | |
| Used Observed*: | | | | | |
| Swimming | ☐ Skin Diving | <u> </u> | SCUBA diving | j Tubing | ☐ Water Skiing |
| ☐ Wind surfing | ☐ Kayaking | | | Wading | |
| ☐ Hunting | ☐ Trapping | _ | | None of the above | Rafting |
| Describe: (include num | ber of individuals | recre | Pating frequency of | use photo document | C Other |
| evidence of recreation | aluses etc | | acing, requestey of | use, photo-docume | intation of |
| | | | | | |
| | | | | | |
| Surrounding Condition | ons* (Mark all that n | v o m | ota or impodo rozvo-k | | |
| Surrounding Condition | ons*: (Mark all that p | orom(| ote or impede recreat | ional uses. Attach phi | otos of evidence or |
| Surrounding Condition Inusual items of interest.) ACity/county parks | ons*: (Mark ali that p | | | | otos of evidence or Campgrounds |
| inusual items of interest.) | ☐ Playgrounds | | MDC conservation | ☆ Urban areas | ☐ Campgrounds |
| ACity/county parks | · · · · · · · · · · · · · · · · · · · | <u>-</u> | MDC conservation lands National forests | ☑ Urban areas ☐ Nature trails | ☐ Campgrounds |
| City/county parks ☐ Boating accesses ☐ No trespass sign | ☐ Playgrounds ☐ State parks ☐ Fence | | MDC conservation lands National forests | ☆ Urban areas | ☐ Campgrounds |
| □ Boating accesses □ No trespass sign Evidence of Human U | ☐ Playgrounds ☐ State parks ☐ Fence | | MDC conservation lands National forests | ☑ Urban areas ☐ Nature trails | ☐ Campgrounds |
| © Boating accesses ☐ No trespass sign | ☐ Playgrounds ☐ State parks ☐ Fence | | MDC conservation lands National forests Steep slopes | Urban areas Nature trails Other: | ☐ Campgrounds ✓ Stairs walkway |
| City/county parks ☐ Boating accesses ☐ No trespass sign Evidence of Human U | ☐ Playgrounds ☐ State parks ☐ Fence | _ _ X | MDC conservation lands National forests | Urban areas Nature trails Other: | ☐ Campgrounds X Stairs(walkway |
| City/county parks ☐ Boating accesses ☐ No trespass sign Evidence of Human U | ☐ Playgrounds ☐ State parks ☐ Fence | | MDC conservation lands National forests Steep slopes | Urban areas Nature trails Other: | ☐ Campgrounds X Stair (walkway) ☐ RV/ATV Tracks |
| □ Boating accesses □ No trespass sign Evidence of Human U Roads | ☐ Playgrounds ☐ State parks ☐ Fence se*: ☐ Foot paths/print. | | MDC conservation lands National forests Steep slopes | Urban areas Nature trails Other: Livestock Watering | ☐ Campgrounds X Stairs walkway ☐ RV/ATV Tracks ☐ Fishing Tackle |
| □ Boating accesses □ No trespass sign Evidence of Human U Roads | ☐ Playgrounds ☐ State parks ☐ Fence se*: ☐ Foot paths/print. | | MDC conservation lands National forests Steep slopes | Urban areas Nature trails Other: Livestock Watering | ☐ Campgrounds Stairs walkway □ RV/ATV Tracks □ Fishing Tackle |
| □ Boating accesses □ No trespass sign Evidence of Human U Roads □ Rope swings | ☐ Playgrounds ☐ State parks ☐ Fence se*: ☐ Foot paths/print: ☐ Camping Si | | MDC conservation lands National forests Steep slopes | Urban areas Nature trails Other: Livestock Watering | ☐ Campgrounds Stairs walkway □ RV/ATV Tracks □ Fishing Tackle |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two - Data Sheet B for WBID #:

Stream Morphology: **Upstream View Physical Dimensions:** 28' の、Y・Max. Depth(ft) Length(ft) /500' Ave. Depth(ft) ☑ Riffle | Width(ft) Length(ft) 1570 Ave. Depth(ft) Max. Depth(ft) 48′ 1.5" ✓ Run Width(ft) Length(ft) Ave. Depth(ft) Max. Depth(ft) □ Pool Width(ft) Estimated (ft³/sec): No ☑ Flow Present? Yes, 0.5 Downstream View Physical Dimensions: 0.41 Max. Depth(ft) 281 Length(ft) /got Ave. Depth(ft) ✓ Riffle Width(ft) Length(ft) /800'Ave. Depth(ft) Max. Depth(ft) Width(ft) 43' Z Run∶ Ave. Depth(ft) Max. Depth(ft) Width(ft) Length(ft) □ Pool Estimated (ft³/sec): No Flow. Present? 0,5 Substrate*: (These values should add up to 100%) 60 %Sand %Silt 2%Mud/Clay %Bedrock %Gravel ⟨⟨ %Cobble | 30 Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site) Filamentons religae on rocky substrate along ontride of riggle from potte Water Characteristics*: (Mark all that apply.) ☐ Chemical None Other Odor: Musky ☐ Sewage □ Milky Other 🔀 Clear **≱** Gray Color: □ Green 🗷 Fine □ None Other Bottom ☐ Sludge Solids sediments Deposit: Surface IIO 🋣 ☐ Foam None Other Scum Deposit: Comments: Please attach additional comments (including information from interviews) to this form. *This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use. I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate. Organization: Mec Water Resources Position: Environmental Specialist

Appendix A River des Peres Site Photographs

Site #1. Upstream View



Site #1. Downstream View



Site #2. Upstream View



Site #2. Downstream View



Stream Morphology & Discharge Measurements

| | | | | Project Na | me/Num! | ber://, <u>2/20/24</u> / | 150 : 1 | die d | to row | | |
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| | | | Si | Date/111 te/Transect | me: <u> / </u> | ber: | 1 - 1 | 073460 | 17 ₇ -4 272 | inga Kari | |
| | Start T | ime: | 1035 | | | ······································ | <u> </u> | <u> </u> | End Time: | : | |
| | Measured | by: <u> </u> | <u> 146 - </u> | . Air | Temp: | 10°F | - | W | | Dora | |
| | | | | Stream N | forphol | ogy Betwe | en Trans | ects | _ | | |
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| | | | Other | 2% 11 | hud. | | | | | | |
| Bank Co | ompostion _ | | <u> </u> | <u>/</u> | | | · · · · · · · · · · · · · · · · · · · | <u> </u> | | | |
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| General | Observations | 3: | | | | | | | · · · · · · · · · · · · · · · · · · · | | |
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| Begii | nning Stage | | | | | | | | Total Q: | | } |
| | Channel Wid: | th: | | | Area: | | | Averac | ge Velocity: | | |
| | Distance from | Datum to | Water Surfac | | Start: | | | _ | End; | | |
| | Meas. typ | e: Price | AA Pygmy | Data Coll. | Type: Aqu | a Caic Sheet | A | qua Calc T | ransect#: | | |



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| Time | Station # | Angle Coefficient | Distance (from Initial Point-ft.) | Width | Depth (ft.) | Observation Depth | Revs. | Interval Time - in seconds | Vel | oci | ity (f/s) Mean in Ver- tical | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (cfs |
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

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| Site Lat/Long: # 156 | 0734848/427 | 2631 F-7 Rue | a de De | 1. | |
| Date & Time: 10/2010 | 4 //30 | Facility Na | r <i>zec <u>rivas</u></i> ne: | | <u> </u> |
| Personnel: ROI /N | | Permit Nur | | | |
| Current Weather Cond | | | | ast 7 days: 🛭 🔗 | |
| Photo Ids: Upstream | | stream: | Oth | er phopos 5-8 | v capt |
| Used Observed*: | | | | - projes 3 | <u> </u> |
| □ Swimming | ☐ Skin Diving | ☐ SCUBA divir | - T. T. I | : | 15.44 |
| | ☐ Kayaking | | | | ☐ Water Skiing |
| ☐ Hunting | | ☐ Boating | | ding | Rafting |
| Describe: (include num | ☐ Trapping | ☐ Fishing | Nor | ne of the above | ☐ Other |
| Surrounding Condition | | | | | |
| nusual items of interest. City/county parks | ons*: (Mark all that p) □ Playgrounds | □ MDC cons | | uses. Attach phot | |
| City/county parks | ☐ Playgrounds | □ MDC cons | ervation 🗶 | Urban areas | ☐ Campgrounds |
| City/county parks ☐ Boating accesses | ☐ Playgrounds ☐ State parks | □ MDC cons lands □ National f | ervation X | Urban areas Nature trails | ☐ Campgrounds |
| City/county parks | ☐ Playgrounds | □ MDC cons | ervation X | Urban areas | ☐ Campgrounds |
| City/county parks ☐ Boating accesses | ☐ Playgrounds ☐ State parks ☐ Fence | □ MDC cons lands □ National f | ervation X | Urban areas Nature trails | ☐ Campgrounds |
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^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two – Data Sheet B for WBID #:

| X Riffle | <u>/iew Physica</u> Width(ft) | 28.0 | Length(ft) | 50 | Ave. Depth(ft) | 0.2 | Max. [|)epthi | (ft) | 0.5 |
|--|---|---------------------|---|--|---|---|-----------------------|---------------------------------------|--|--------------------------------------|
| <u>- Run</u> S≭Run | Width(ft) | 91.5 | Length(ft) | | Ave. Depth(ft) | 0.75 | Max. D | epth(| (ft) | 1.1 |
| □ Pool | Width(ft) | // _/ | Length(ft) | | Ave. Depth(ft) | | Max. D | epth(| ft) | |
| Flow | Present? | (Yes) | No | | Estimated (ft ³ / | sec): | 0, | 8 | | |
| Downstrea | m View Phys | ical Dim | ensions: | | | | | | . <u> </u> | |
| □ Riffle | Width(ft) | | Length(ft) | | Ave. Depth(ft) | | Max. [| Depth | (ft) | |
| ⊠ ′Run | Width(ft) | 281 | Length(ft) | 500 | Ave. Depth(ft) | 0.8 | Max. D | epth(| (ft) | 1.0 |
| □ Pool | Width(ft) | | Length(ft) | | Ave. Depth(ft) | | Max. D | epth(| (ft) | |
| → flow | Present? | Yes | No | | Estimated (ft³/ | sec): | l |), S | | |
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| Water Cha Odor: Color: Bottom | racteristics* ☐ Sewa | : (Mark al | that apply Musky Green | tation ocate) | or algal growth A on edyc Chemical Gray K Fine | in at the a | e y e | ent sit | Othe Othe | Concara er |
| Water Char Odor: Color: Bottom Deposit: Surface Deposit: Comments: This informat | racteristics* Sewa Sludg Clear Clear Oil Please attack tion is not to be nensive under cision on the | : (Mark all ge | that apply Musky Green Solids Scum Ithat apply Musky Green Solids | tation oeate) Date (income of solutions. | or algal growth A on edge Chemical Gray K Fine sediments | □ Non □ Milk □ Non tion fron act recrea | e y e intervition but | C C C C C C C C C C C C C C C C C C C | Other Other Other Is to the other ot | er er his form. o provide a |

Stream Morphology & Discharge Measurements

Project Name/Number: 150 - Kives des Peus Date/Time: 1750 / 5/20/20
Site/Transect ID Number: 2 / 156 Start Time: 1/30 End Time: 1150 Measured by: ______ Air Temp: _______

Stream Morphology Between Transects Weather Cond: (1965) Length of Pools Length of Run Length of Riffles Start GPS $\int \int dt'$ Start GPS End GPS # Start GPS # End GPS # End GPS # KD2 1 tno 1557 200 250 6 8 9 10 11 12 13 14 15 Stream Morphology At Transect LDB Angle:
 RDB Angle:

 Secchi (ft)

 Turbidity (NTU):

 @31.5 25 C 10% Gravel Onth Sand Total Silt -Channel Comp (%): Cobble Bank Compostion Flat rip rap fire for the Riparian Corridor Density: Width of Riparian Area: Compostion of Riparian Vegitation: General Observations: Stream Discharge Measurements Beginning Stage Ending Stage: Total Q: Channel Width: Total Area: Average Velocity; Distance from Datum to Water Surface: Start: Meas, type: Price AA Pygmy Data Coll, Type: Aqua Caic Sheet Aqua Calc Transect #:

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| Time | Station # | Angle Coefficient | Distance (from initial Point-ft.) | Width | Depth (ft.) | Observation Depth | Revs. | Interval Time - in seconds | At Point | | ity (f/s) Mean in Ver- ticat | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (cfs |
| | 1 (EOW) | | 0 | 0.5 | 0.55 | 0 | 0 | | | 0 | 0 | | | |
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| | classifical | | Site Location Desc | rintion: | · |
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| Site Lat/Long: #/57 | 6735003 h1724 | 22. | | les Peres | |
| Date & Time: p/zo/by | 1200 | / | Facility Name: | 1616167 | |
| Personnel: RM/NM | ··· | | Permit Number: | | |
| Current Weather Cond | litions: Dueicast | | | ns for Past 7 days: 👩 | erest. |
| Photo Ids: Upstream | | | am: | Other: photos 9. | 12 |
| Used Observed*: | | _ | | | · |
| ☐ Swimming | ☐ Skin Diving | | SCUBA diving | D Tubing | ☐ Water Skiing |
| © Wind surfing | ☐ Kayaking | | | □ Wading | □ Rafting |
| ☐ Hunting Describe: (include num | ☐ Trapping | | Fishing j | None of the above | 7 Other |
| Surrounding Condition unusual items of interest.) ACity/county parks | ons*: (Mark all that p | | <u></u> . | ational uses. Attach pho | tos of evidence or |
| | _ = riaygrounus | ' - | MDC conservatio | n 🕽 🗸 Urban areas | ☐ Campgrounds |
| | | ' · | lands | n Urban areas | ☐ Campgrounds |
| ☐ Boating accesses | ☐ State parks | <u> </u> | | n | |
| ☐ Boating accesses ☐ No trespass sign | | | lands National forests | | ☐ Campgrounds ☐ Stairs/walkway |
| □ No trespass sign Evidence of Human L | ☐ State parks | | lands National forests | ☐ Nature trails | |
| □ No trespass sign | ☐ State parks |] x | lands National forests | □ Nature trails □ Other: □ Livestock | □ Stairs/walkway |
| □ No trespass sign Evidence of Human L | ☐ State parks ☐ Fence ☐ Foot |] [X x | National forests Steep slopes | □ Nature trails □ Other: | |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two - Data Sheet B for WBID #:

| X Riffle | Width(ft) 2 | 3 · Length(ft) 🥻 | Zo Ave. Depth(ft) | 0.5 Ma | x. Depth(ft)_ | 0.65 |
|---|--|---|------------------------------|--|-----------------------------|--|
| 2X Run | Width(ft) 3/. | | Ave. Depth(ft) | 0.65 Max | k. Depth(ft) | 0,8 |
| X Pool | | ら、Length(ft) | Ave. Depth(ft) | Ma> | k. Depth(ft) | 0,58 |
| X Flow | Present? | es) Dem | Estimated (ft ³ / | sec): O. | 3 | |
| Downstrear | n View Physical [| Dimensions: | | | | |
| ☐ Riffle | Width(ft) | Length(ft) | Ave. Depth(ft) | Ma | x. Depth(ft) | |
| X Run | Width(ft) 31. | 5 Length(ft) 5 | Ave. Depth(ft) | 0.5 Max | x. Depth(ft) | 0.7 |
| X Pool | Width(ft) 25 | Length(ft) | 35' Ave. Depth(ft) | 0,45 Max | x. Depth(ft) | 0.6 |
| ☐ Flow | Present? | (es) No | Estimated (ft³/ | sec): | 0.4 | |
| 10 %Cobb | I | iravel 30% | | | | % Bedrock concr |
| Aquatic Ve | getation*: (note a | amount of vegeta | sand ——%siit | at the assess | ment site) | concr |
| Aquatic Ve Small emi Water Char | getation*: (note a ls of hlamwnlo racteristics*: (Ma | amount of vegeta s clyae m = rk all that apply) | ntion or algal growth | at the assess | ment site) | concu |
| Aquatic Ve Small em Water Char Odor: | getation*: (note a Let of hlamento racteristics*: (Ma | amount of vegeta | ation or algal growth | at the assess | sment site) | concu |
| Aquatic Ve Small em Water Char Odor: Color: Bottom | getation*: (note a ls of hlamwnlo racteristics*: (Ma | amount of vegeta so algae m so rk all that apply) M Musky | ntion or algal growth | at the assess | sment site) middle | concre Gravel Live |
| Aquatic Ve Small em | getation*: (note a Ls A hlamwnho racteristics*: (Ma G Sewage Clear | amount of vegeta s clyae m s rk all that apply) M Musky Green | ☐ Chemical Chemical Fine | at the assess Plints or □ None □ Milky | sment site) middle d Othe | Concretion of the concretion o |

Appendix A River des Peres Site Photographs

Site #3. Upstream View



Site #3. Downstream View



Site #4. Upstream View



Site #4. Downstream View



Stream Morphology & Discharge Measurements

Project Name/Number: MSD Rever des Paus

Date/Time: 10/20/04 / 1200

Site/Transect ID Number: 3 / 4" Start Time: 12.00 Measured by: 177. 177. Air Temp: 50° F

Stream Morphology Between Transects Weather Cond: Overcast Length of Pools Length of Run Length of Riffles Start GPS Start GP\$ End GPS # Start GPS # End GPS # End GPS # 1365 1.20 8 9 10 11 12 13 14 Stream Morphology At Transect LDB Angle: RD8 Angle: Secchi (ft) Turbidity (NTU): 18 2 20 8" " Channel Comp (%): Bank Compostion Flot PIP MAY 1 111 1111 Riparian Corridor Density: Width of Riparian Area: Composition of Riparian Vegitation: General Observations: Stream Discharge Measurements Beginning Stage Ending Stage: Total Q: _____ Average Velocity: Channel Width: Total Area: Distance from Datum to Water Surface: Start: Meas, type: Price AA Pygmy Data Coll. Type: Aqua Calc Sheet Aqua Calc Transect #:

| | · | _ | | | Strea | am Dis | scha | rge Meas | urement | s | | | |
|----------|----------|----------------------|-----------------------------------|-------------------------------|-------------|-------------------|-------------|-------------------------------|----------|--------------|----------------------------|------------------------|----------------------------|
| | | 1 | | | | | | | Velo | city (f/s) | 날 | | |
| Time | Station# | Angle Coefficient | Distance (from Initial Point-ft.) | Width (*) | Depth (ft.) | Observation Depth | Revs. | Interva! Time - in seconds | At Point | Mean in Ver- | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (cfs) |
| | 1 (EOW) | ! | O | 10/ | 0.0% | 0 | 0 | 0 | (| 0 | | | |
| | | | | 15.7 | 7.73 | | | | | | | | |
| | | | | 9.5 | 6.77 | | | | | | | <u> </u> | : |
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| | |] | | 20,0 | 177 | | | | | _ | | | |
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| Missouri WBID #: 114 | wasselfed | į | Site Location Descri | ntion: | <u> </u> |
|---|---------------------------------------|-------------|---|---|------------------------------------|
| Site Lat/Long: 159 (c | 135 288 /427218 | | T-4 River des + | | |
| Date & Time: tol2रीव्य | 1330 | | Facility Name: | eves | |
| Personnel: Pill III | · · · · · · · · · · · · · · · · · · · | | Permit Number: | | · |
| Current Weather Cond | itions: Course | | Weather Conditions | for Past 7 days: 10 | |
| Photo lds: Upstream: | Down | strea | im: | Other: plurles 12 | <u>vercase</u> |
| | | | | - Page 103 F. | <u> </u> |
| Used Observed*: | | | | | |
| ☐ Swimmingi | ☐ Skin Diving |] <u> </u> | CUBA diving | Tubing | ☐ Water Skiing |
| <u> Wind surfing</u> | ☐ Kayaking | | · | Wading | ☐ Rafting |
| Hunting | ☐ Trapping | _ F | ishing | None of the above | C Other |
| Describe: (include num | ber of individuals i | recre | ating, frequency of | use photo-docume | entation of |
| | | _ | | | |
| | ns*: (Mark all that p | _ | MDC conservation | | otos of evidence or G Campgrounds |
| City/county parks | ☐ Playgrounds | | MDC conservation lands | X Urban areas | ☐ Campgrounds |
| City/county parks Boating accesses | ☐ Playgrounds ☐ State parks | _ | MDC conservation lands National forests | ∠ Urban areas∴ Nature trails | ☐ Campgrounds ☐ Stairs/walkway |
| City/county parks | ☐ Playgrounds ☐ State parks ☐ Fence | | MDC conservation lands | ∠ Urban areas∴ Nature trails | ☐ Campgrounds ☐ Stairs/walkway |
| City/county parks Boating accesses No trespass sign | ☐ Playgrounds ☐ State parks ☐ Fence | | MDC conservation lands National forests | ∠ Urban areas∴ Nature trails | ☐ Campgrounds |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two - Data Sheet B for WBID #:

| X Riffle | Width(ft) | 251 | Length(ft) 2 | 202 Ave. Depth(ft) | 0145 Maz | x. Depth(ft) | 0,72 |
|--|--|--|--|--|--|---|--|
| x Run | | 25' | Length(ft) | 5D ' Ave. Depth(ft) | 0,45 Max | k. Depth(ft) | 0,75 |
| □ Pool | Width(ft) | - | Length(ft) | Ave. Depth(ft) | Max | c. Depth(ft) | |
| X Flow | Present? | Yes |) No | Estimated (ft ³ / | (sec): /, a | <u> </u> | <u></u> |
| Downstrea | m View Physic | al Dim | | | <u> </u> | | |
| X Riffle | Width(ft) | 20' | | 570 Ave. Depth(ft) | | x. Depth(ft) | 0.6 |
| X Run | Width(ft) | 23 | Length(ft)/ | מס ' Ave. Depth(ft) | | | 0.56 |
| □ Pool | Width(ft) | | Length(ft) | Ave. Depth(ft) | | k. Depth(ft) | |
| □ Flow ————— | Present? | (es |) No | Estimated (ft ³ / | (sec): /, C | , | |
| Substrate* | : (These values | | | | 2 %Mud/ | Clay | %Bedrock |
| 7.5 %0CODE | | | | | | | |
| • | | %Grav | ·- <u>·</u> | | | | 70Bed10C1 |
| Aquatic Ve | egetation*: (no | te amo | ount of vegeta | ntion or algal growth | n at the assess | ment site) | |
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| Aquatic Ve Space ba Water Cha Odor: | egetation*: (no | te amo | ount of vegeta forces, will Il that apply.) | ntion or algal growth | n at the assess | ment site) ky subst | rate |
| Aquatic Ve Pracel ba Water Cha Odor: Color: Bottom | egetation*: (no La Confains racteristics*: (l | te amo Sous Mark a e (D | ount of vegeta faced, will Il that apply.) Musky | ation or algal growth الحسمة المطالعة المرادة المالية | n at the assess | ment site) ky seebst | er er |
| Aquatic Veranel based ba | racteristics*: (Inc. X Sewage X Clear Sludge | te amo Source Mark a e | Dunt of vegeta **Fare A, Will If that apply.) **Musky Green Solids **X Scum | ation or algal growth Chemical □ Chemical | n at the assess None Milky | ment site) ky subsk Othe | er er |
| Aquatic Veneral bases Water Change Color: Color: Bottom Colors Deposit: Surface Colors Deposit: Oliver Change Ch | egetation*: (no contains racteristics*: (l Sewage Clear Sludge Oil outfall disc | Mark a | Il that apply.) Musky Green Solids | ation or algal growth Chemical Chemical Chemical Chemical Chemical Fine Sediments Foam | None None | Othe | er er |
| Aquatic Veranel bar Water Char Odor: Color: Bottom Deposit: Surface Deposit: Omments: | racteristics*: (In Sewage School Oil outfall discontact and a sewage Shade Sh | Mark a e () | I that apply. Green Solids Scum | The Aligate of the A | None None None | Othe Othe | er er er his form. |
| Aquatic Verance I based on the Charter Charter Color: Bottom Deposit: Surface Deposit: One Comments: This information | racteristics*: (I Sewage Clear Sludge Oil Outfall disc | Mark a e () | Il that apply. Green Solids Scum Solids Scum Solids Scum Solids | The Aligate Growth Chemical Cow Fine sediments Foam Seding information of whole body cont | n at the assess None None None None | Other Other out rather is t | er er his form. |
| Aquatic Verace I be Water Char Odor: Color: Bottom Deposit: Curface Deposit: Omments: Chis informatione compresitions | egetation*: (no contains racteristics*: (l Sewage Clear Sludge Oil outfall disc Please attach a | Mark a e O addition used sanding | Il that apply. Green Solids Solids Scum Onal comment: of water conditions | General growth action or algal growth action of algal growth action of the action of whole body contions. Consequently, | None None None None | Other Other out rather is to is not intended. | er er his form. o provide a |
| Aquatic Verance I based on Mater Charton Deposit: Surface Deposit: Omments: This informations compressions and designed on the compression of the | Egetation*: (no Confains Fracteristics*: (I Sewage Clear Sludge Oil Please attach atta | Mark a e O addition used sanding | Il that apply. Green Solids Solids Scum Onal comment: of water conditions | The Aligate Growth Chemical Cow Fine sediments Foam Seding information of whole body cont | None None None None | Other Other out rather is to is not intended. | er er his form. o provide a |
| Aquatic Version of Colors | racteristics*: (In Sewage Studge Oil Oil Cutfall discretion is not to be thensive understruse. | Mark a e O addition used so anding creation | Il that apply.) Musky Green Solids Scum Comment Comm | Chemical Chemical Chemical Comparison Chemical Comparison Co | None None None None | Other Other out rather is to is not intend | er er his form. o provide a ded to dire ysis or tha |
| Aquatic Verguel based of the unders atasheet is | getation*: (no Confains racteristics*: (I Sewage Clear Sludge Oil Oil Please attach a | Mark a e D addition used sanding creation affirm rate. | Il that apply.) Musky Green Solids Scum Onal comment: olely for remove of water condition use analysis but to the best of | General growth action or algal growth action of algal growth action of the action of whole body contions. Consequently, | None None None None I his information into this information information information in the control of the c | Other Other Other on reported | his form. o provide a ded to dire ysis or tha |

Stream Morphology & Discharge Measurements

| Start 1 | ime: 📗 📒 | 776 | _ | · | - | - | | End Time: | 150 | |
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| Measure | d by: <u>kir</u> | | _ Air | Temp: | 40 | _ | We | | | |
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| LDB Angle: | | ı | RDB Angle: _ | | | Secchi (ft) | | Terek | bidity (NTU): | |
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| Channel Comp (%): | | Cobble | 18 | Gravel | 50 | Sand_ | 20 | | | <u> </u> |
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| Paul Carrantin | | Other / | 11021 - 2 | (% ₁ | | | | | | |
| Bank Compostion | | 160 1 mg | 10/2/ | <u> </u> | <u> 2. 2.42 </u> | 1 + 1-1 | <u> </u> | ·· | | |
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| Riparian Corridor Der | sity: | Width of Rip | arian Area:_ | | <u> </u> | · | | | | |
| | | Compostion | of Riparian \ | Vegitation: | · <u>-</u> ·· | | | | | |
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| General Observation |)\$: | | | | | <u></u> | | | | |
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| Beginning Stage | | | | | | urenienis | | T-4-1 A | | |
| Channel Wid | th: | | Total | Area: | | | Augene | Total Q: _ • Velocity: | | |
| Distance from | | Water Surfac | | Start: | | | was 1936 | Find: | <u> </u> | |
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| Time | Station # | Angle Coefficient | Distance (from initial Point-ft.) | Width | Depth (ft.) | Observation Depth | Revs. | interval Time - in seconds | At Point | Mean in Ver- | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (cf |
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| Missouri WBID #: 14 | uclassified | Site Location Do | escription: | - |
|---|---|---|--|---|
| Site Lat/Long: #160 | 62352360210C | | - | |
| Date & Time: polad od | k 114(T) | Facility Name: | des Peves | <u> </u> |
| Personnel: NM Pin | | Permit Number | <u>. </u> | |
| Current Weather Cond | ditions: Descart | | | 0 |
| Photo Ids: Upstream | | stream: | Other: plietes 1 | |
| | <u>"</u> | | | 7 70 |
| Used Observed*: | | | | |
| ☐ Swimming | ☐ Skin Diving | ☐ SCUBA diving | □ Tubing | ☐ Water Skiing |
| E Wind surfing | _ Kayaking | ☐ Boating | ☐ Wading | ☐ Rafting |
| ☐ Hunting | □ Trapping | ☐ Fishing | None of the abo | |
| Describe: (include num | ber of individuals | recreating, frequenc | v of use photo-docum | sentation of |
| evidence of recreation | al uses, etc. | | y or use, photo docum | icitation of |
| | | | | |
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| | | | | |
| Surrounding Condition | ons*: (Mark all that p | promote or impede rec | reational uses. Attach p | hotos of evidence or |
| inusual items of interest. | <u> </u> | · · · · · · · · · · · · · · · · · · · | · | hotos of evidence or |
| Surrounding Condition Unusual items of interest. City/county parks | ons*: (Mark all that p | ☐ MDC conservat | | hotos of evidence or Campgrounds |
| City/county parks | ☐ Playgrounds | · · · · · · · · · · · · · · · · · · · | · | |
| City/county parks Boating accesses | <u> </u> | ☐ MDC conservat | tion X Urban areas | □ Campgrounds |
| City/county parks | ☐ Playgrounds | ☐ MDC conservat | tion Durban areas | ☐ Campgrounds |
| ☐ Boating accesses ☐No trespass sign | ☐ Playgrounds ☐ State parks ☐ Fence | ☐ MDC conservated lands ☐ National forest | tion Durban areas | ☐ Campgrounds |
| Boating accesses No trespass sign Evidence of Human L | ☐ Playgrounds ☐ State parks ☐ Fence | ☐ MDC conservated lands ☐ National forest | tion Durban areas | ☐ Campgrounds |
| ☐ Boating accesses ☐No trespass sign | ☐ Playgrounds ☐ State parks ☐ Fence | ☐ MDC conservated lands ☐ National forest | Urban areas S Nature trails Other: Cew | Campgrounds Stairs/walkway |
| Boating accesses No trespass sign Evidence of Human L | ☐ Playgrounds ☐ State parks ☐ Fence | ☐ MDC conservationals ☐ National forest | Urban areas Nature trails Other: Center | Campgrounds Stairs/walkway |
| Boating accesses No trespass sign Evidence of Human L | ☐ Playgrounds ☐ State parks ☐ Fence Se*: ☐ Foot paths/print: | ☐ MDC conservation in the lands ☐ National forest | tion | Campgrounds Stairs/walkway Law RV/ATV Tracks |
| Boating accesses No trespass sign Evidence of Human U | ☐ Playgrounds ☐ State parks ☐ Fence Jse*: ☐ Foot | ☐ MDC conservation in the lands ☐ National forest | Tion Wurban areas IN Nature trails IN Other: Center The Livestock Watering IN NPDES | ☐ Campgrounds ☐ Stairs/walkway Chaw CRV/ATV Tracks ☐ Fishing Tackle |
| □ Boating accesses □ No trespass sign Evidence of Human to Roads □ Rope swings | ☐ Playgrounds ☐ State parks ☐ Fence Se*: ☐ Foot paths/print: | ☐ MDC conservation in the lands ☐ National forest | tion | ☐ Campgrounds ☐ Stairs/walkway Chaw CRV/ATV Tracks ☐ Fishing Tackle |
| Description of interest. City/county parks Description of Boating accesses No trespass sign Evidence of Human U Roads Rope swings | ☐ Playgrounds ☐ State parks ☐ Fence Se*: ☐ Foot paths/print: | ☐ MDC conservation of lands ☐ National forest | Tion Wurban areas IN Nature trails IN Other: Center The Livestock Watering IN NPDES | ☐ Campgrounds ☐ Stairs/walkway Chaw CRV/ATV Tracks ☐ Fishing Tackle |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology: Upstream View Physical Dimensions: Length(ft) Max. Depth(ft) Ave. Depth(ft) ☐ Riffle Width(ft) 0.8 Length(ft) 500 Ave. Depth(ft) Max. Depth(ft) 0.6 Width(ft) 🕱 Run Length(ft) 500'Ave. Depth(ft) Max. Depth(ft) 0.6 Width(ft) ΣΚ.Pool Estimated (ft³/sec): No LK Flow Present? 0.5 Downstream View Physical Dimensions: Length(ft) 20 / Ave. Depth(ft) Max. Depth(ft) 0.33 J5! 0.1 **⊠** Riffle Width(ft) Æ, v & Length(ft) 100 'Ave. Depth(ft) Max. Depth(ft) **⊠**KRun Width(ft) Length(ft) 300' Ave. Depth(ft) り、 ら Max. Depth(ft) 1.0 231 JX Pool Width(ft) Estimated (ft³/sec): Present? Mes) Nο □ Flow 1.0 Substrate*: (These values should add up to 100%) %Silt -%Mud/Clav %Gravel 35 %Sand 5 %Cobble . 50 Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site) Smutweed, bulloush, whows on gravel bur, very minimal algre on substrate Water Characteristics*: (Mark all that apply.) ☐ Chemical Other □ None Odor: □ Sewage Musky Other Color: X' Gray □ Milky \Box Green Other □ None Bottom □ Solids S Fine ☐ Sludge Deposit: sediments Surface None Other Scum □ Foam. Deposit: Comments: Please attach additional comments (including information from interviews) to this form. *This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use. I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate. Signed: Shure Marta Date: 10/20/04

Organization: MEC Water Resources Position: Environmental Speculist

Appendix A River des Peres Site Photographs

Site #5. Right Descending Bank View



Site #5. Downstream View



Site #6. Left Descending Bank View



Site #6. Downstream View



Stream Morphology & Discharge Measurements

| | | ime:/ | 1 | - | | | | | End Time: | :_/4/5 | |
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| | Measured | by: <i>[//]</i> ; | ni 1872 | _ Air | Temp: | 50°F | - | We | | Overca | |
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| * 4/ f | <u> 18 5 1</u> | | Cobble _ | RDB Angle: | <u>メリグ</u> Gravel | | t Transect Secchi (ft) Sand | 36 | | pidity (NTU): | |
| | | | Other | 25 52 | | | <u> </u> | | | | |
| Bank Com | ipostion _ | <u> </u> | 71 19 1 | Prop! | <u>/</u> | <u> </u> | | | | | |
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| | classified | Site Loc | cation Descri | ntion: | <u> </u> |
|---|--------------------------|-------------------------|-----------------------------|------------------------------------|---------------------------------|
| Site Lat/Long: # 161(| 135712 /42717 | | Rues de | 1 | |
| Date & Time: 10/2010 | 4 1425 | Facility | Name: | SPECES | |
| Personnel: NM/RM | | | Number: | - | _ |
| Current Weather Cond | | | | for Past 7 days: | Dueicad |
| Photo lds: Upstream | . j Downs | stream: | | Other: places 24 | |
| | | | | | |
| Used Observed*: | | | | | |
| Swimming | . Skin Diving | SCUBA | jiving 📋 | Tubing | Water Skiing |
| Wind surfing | Kayaking | Boating | | Wading | I Rafting |
| : Hunting Describe: (include num | i. Trapping | _ Fishing | × | None of the above | Other |
| Surrounding Condition | ons*: (Mark all that p | romote or in | npede recreat: | onal uses. Attach pho | |
| :::City/county parks | Playgrounds | . MDC d | onscrvation | X Urban areas | _ |
| | | MDC o | conservation | | _ |
| . Boating accesses | Playgrounds State parks | lands | conservation nal forests | | 1. Campgrounds |
| | | lands Natior | <u> </u> | X Urban areas | 1. Campgrounds |
| Boating accesses No trespass sign | State parks | lands Natior | nal forests | Urban areas Nature trails | 1. Campgrounds |
| Boating accesses No trespass sign Evidence of Human U | State parks | lands .: Nation X Steep | nal forests | Nature trails Other: | 1. Campgrounds 2. Stairs/walkwa |
| Boating accesses No trespass sign | State parks Fence se*: | lands Nation X Steep | nal forests o slopes | Vurban areas Nature trails Other: | Campgrounds Stairs/walkwa |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

| 🕱 Riffle | iew Physical D Width(ft) | | Length(ft) | 201/Ave. Depth(ft) | D.60 Max | . Depth(ft) | 0.75 |
|---|---|--|---|--|---|---|--|
| □ Run | Width(ft) | | Length(ft) | Ave. Depth(ft) | Max | . Depth(ft) | • |
| ☐ Pool | Width(ft) | | Length(ft) | Ave. Depth(ft) | Max | . Depth(ft) | |
| Flow | Present? | (Yes) | No | Estimated (ft³/s | sec): O. | 8 | <u>. </u> |
| Downstrear | n View Physica | al Dime | nsion <u>s:</u> | | | | |
| □ Riffle | Width(ft) | | Length(ft) | Ave. Depth(ft) | | . Depth(ft) | - O ::- |
| X _Run | | | | Alog/ Ave. Depth(ft) | 0.65'Max | | 0.85 |
| XX Pool | Width(ft) | <u> 36.0'</u> | Length(ft) | <i>400'</i> Ave. Depth(ft)_ | 0.25' Max | . Depth(ft) | 0.35 |
| ⊠ . Flow | Present? | (es) | No | Estimated (ft³/s | sec): | O | |
| Odor: | racteristics*: (A | | Musky | ☐ Chemical | □ None | ☐ Oth | |
| Color: | 2K Clear | | ☐ Green | © KGray | □ Milky | I Oth | er |
| Bottom | ☐ Sludge | | □ Solids | Fine | ☐ None | ∠ Oth | |
| | | | | sediments | | Allow the | |
| Deposit: | | | (C) (C) | ¬ - | I ALK Nieuwa | Oth- | or |
| Deposit: Surface Deposit: | O Oil | | □ Scum ———— | □ Foam | X None | U Oth | <u></u> |
| Deposit: Surface Deposit: Comments: Find the informat more comprehenses | Please attach a ion is not to be tensive understa tision on the rec | ddition used sol | al commen ely for remo f water cond | ts (including informat val of whole body conta litions. Consequently, t but may point to condi | cion from inte ct recreation b his information | rviews) to t ut rather is t is not inter | this form. to provide a ded to direct |
| Deposit: Surface Deposit: Comments: If This informat more compreh influence a dec effect another the undersi latasheet is t | Please attach a ion is not to be sensive understatision on the recurse. gned, hereby atrue and accur | ddition used sol unding o creation uffirm to | al commen ely for remo f water cond use analysis o the best o | ts (including informatival of whole body contalitions. Consequently, that may point to condiverse when the condiverse with the condiverse when the condiverse with the condiverse when the condiverse when the condiverse with the condiverse when the condiverse when the condiverse when the condiverse when the condiverse when the condiverse when the condiverse when the condiverse when the condiverse when the conditions when the conditions when the conditions were conditions when the conditions when the conditions were conditions when the conditions where the c | cion from inte ct recreation b his information tions that need | rviews) to to ut rather is to is not intent further ana on reported | this form. to provide a ded to directlysis or that |
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Stream Morphology & Discharge Measurements

Project Name/Number: MST - MST - March Jan Perry Site/Transect ID Number: T-6 Start Time: $\sqrt{420}$ End Time: 1445 Measured by: 1/1/1/1/1/1/ Air Temp: _______ Weather Cond: October 4 Stream Morphology Between Transects Length of Pools Length of Run Length of Riffles Start GPS Start GPS End GPS # # Start GPS # End GPS # ft. End GPS# 1 770 1400 most 6 7 8 9 10 11 12 13 14 15

| | ; | Stream Morphol | ogy At Transec | t | |
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| LD8 Angle: | RDB A | ngle: | Secchi (ft) | | urbidity (NTU): |
| Channel Comp (%): | Cobble 10 | Con ite | | | ift |
| Bank Compostion | litt much by | 1-27 | <u> </u> | · cont | |
| Riparian Corridor Density: | Width of Riparian A | Area:oarian Vegitation: | | | |
| General Observations: | Wite Olm | Garage 127 Ga | veral righter | the in mine | Linchi. |
| <u>-</u> | | Stream Discharge | e Measurements | | · |
| Beginning Stage Channel Width: Distance from Datum | Er | Total Area: Start: | | Total C Average Velocity Eng | /: |

Data Coll. Type: Aqua Calc Sheet

Meas. type: Price AA Pygmy

Aqua Calc Transect #:

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| Time | Station # | Angle Coefficient | Distance (from intital Point-ft.) | Width | Depth (ft.) | Observation Depth | Revs. | Interval Time - In seconds | At Point | Mean in Ver- tical | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (cfs) |
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| Used Observed*: Swimming Skin Diving SCUBA diving To Wind surfing Kayaking Boating W | Pev-s | Ucust - 29 |
|--|--|---------------------------------------|
| Date & Time: Jo/20/04 JSDO Facility Name: Personnel: Pm/Nm Permit Number: Current Weather Conditions: Overlaf Weather Conditions for Weather Conditions for Downstream: Used Observed*: □ Swimming □ Skin Diving □ SCUBA diving □ Townstream: □ Wind surfing □ Kayaking □ Boating □ Wind Number: □ Hunting □ Trapping □ Fishing ▼ Number: | r Past 7 days: <i>Ove</i> ther: <i>pludos 37</i> ubing | -29 |
| Personnel: Pm/Nm Permit Number: Current Weather Conditions: Overlaf Weather Conditions for Photo Ids: Upstream: Downstream: Ot Used Observed*: □ Swimming □ Skin Diving □ SCUBA diving □ Tool Wind surfing □ Kayaking □ Boating □ Work Number: □ Hunting □ Trapping □ Fishing ▼ Number: Downstream: Other Conditions for Permit Number: Other Conditions for Photo Ids: Downstream: Other Conditions for Photo Ids: Upstream: Other Conditions ther: <i>plutos 37</i> ubing | -29 |
| Current Weather Conditions: Overland Weather Conditions for Photo Ids: Upstream: Downstream: Ot Used Observed*: Swimming Skin Diving SCUBA diving To Scuba divi | ther: <i>plutos 37</i> ubing | -29 |
| Photo Ids: Upstream: Ot Used Observed*: □ Swimming □ Skin Diving □ SCUBA diving □ Tool Diving <td< td=""><td>ther: <i>plutos 37</i> ubing</td><td>-29</td></td<> | ther: <i>plutos 37</i> ubing | -29 |
| Used Observed*: □ Swimming □ Skin Diving □ SCUBA diving □ To □ Wind surfing □ Kayaking □ Boating □ W □ Hunting □ Trapping □ Fishing ▼ N | ubing | |
| □ Swimming □ Skin Diving □ SCUBA diving □ To Boating □ Wind surfing □ Wind surfing □ Trapping □ Fishing □ Wind Surfing | | C: Materia Chiin - |
| ☐ Wind surfing ☐ Kayaking ☐ Boating ☐ W ☐ Hunting ☐ Trapping ☐ Fishing ▼ N | | Fi Mates Chine |
| ☐ Wind surfing ☐ Kayaking ☐ Boating ☐ W ☐ Hunting ☐ Trapping ☐ Fishing ▼ N | | i i i vvaternkung s |
| ☐ Hunting ☐ Trapping ☐ Fishing 🕱 N | | ☐ Rafting |
| | lone of the above | ☐ Other |
| reserves, unclude number of individuals fecteating, frequency of use | e photo-document | ation of |
| evidence of recreational uses, etc. | c, prioto-document | ation of |
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| · · · · · · · · · · · · · · · · · · · | | <u></u> . |
| Surrounding Conditions*: (Mark all that promote or impede recreations | al uses. Attach photo | as of evidence or |
| unusual items of interest.) | | 22 OF CHIGOTICS DI |
| XCity/county parks | X Urban areas □ | ☐ Campgrounds |
| lands | | 2 Campgrounds |
| | Nature trails | Stairs/walkway |
| | J Other: | |
| | <u> </u> | · · · · · · · · · · · · · · · · · · · |
| Evidence of Human Use*: | | |
| XRoads ☐ Foot ☐ Dock/platform ☐ | Livestock | RV/ATV Tracks |
| paths/prints | Watering | MC KANULA HACKS |
| | NPDES | Tiokin - Table |
| E camping sites | | ☐ Fishing Tackle |
| XOther: | Discharge | <u></u> |
| | | |
| Discharge pipes, photo = 24 access service pour | <u> </u> | |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

| Width(ft) Width(ft) Present? These values s These values s etation*: (note actuated alor cteristics*: (M | Yes Leng Yes Leng gth(ft) gth(ft) gth(ft) No up to 10 50 % of veget | Ave. Dept Ave. Dept Ave. Dept Estimate 00%) Sand — 9 ation or algal g | th(ft) th(ft) th(ft) th(ft) th(ft) d (ft³/sec): | Max. O Max. Max. Max. Max. Max. he assessn | Depth(ft) Depth(ft) P lay 5 | %Bedro | 8 ock- |
|--|--|---|--|--|---|--|--|---|
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| View Physical Width(ft) / Width(ft) Width(ft) Present? (These values s These values s etation*: (note cteristics*: (M Sewage(| Dimension Leng Leng Yes should add Gravel e amount o | gth(ft) gth(ft) gth(ft) No up to 10 50 % of veget | Ave. Dept Ave. Dept Ave. Dept Estimate 00%) Sand — 9 ation or algal g | th(ft) O. th(ft) O. th(ft) d (ft³/sec): %Silt - | Max. Max. Max. O, -%Mud/C | Depth(ft) Depth(ft) P lay 5 | %Bedice | 8 ock- |
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| ≱ Clear | | Green | ⊠ Gray | □ <i>l</i> | Milky | □ Oth | er | |
| ☐ Sludge | D \$ | Solids | ⊅ Fine | | None | □ Oth | er | |
| □ Oil | | | C Foam | | | | | |
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Appendix A River des Peres Site Photographs

Site #7. Upstream View



Site #7. Right Descending Bank View



Site #8. Upstream View



Site #8. Right Descending Bank View



Stream Morphology & Discharge Measurements

Project Name/Number: MS4 Rise A France

Date/Time: 19/ac/o4 1/22*

Site/Transect ID Number: T = 7 1/42*

| Start Time: <u>/タハハ</u> Measured by: <u>*////////</u> | | | End Time: 15/5 | | | | | | | | |
|--|-----------------|-------------|----------------------------------|---------------|-------------|--|-------------------|-------------------|--|--|---------------|
| | | | _ Air | Temp: | 50°F | _ | Weather Cond: | | | | |
| | | | | Stream N | lorphoic | gy Betwe | en Trans | ects | · | · | |
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| | LDB Angle: | | 1 | Stream | | hology At | | t | Turk | oidity (NTU): | _ |
| Channel | Comp (%): | | Cobble | 15 E 1 | Gravel | 30 | Sand | 50 | Silt | | 4 |
| Bank C | ompostion | | Other | <u> </u> | 16.11 | | | | | — .— | |
| | _ | | 777 | X-11 6 15 | | | | | | | |
| Riparian | Corridor De | лsity: | Width of Rip | arian Area: | | | | | | | |
| | | | Compostion | of Riparian V | √egitation: | | | | | | |
| Genera | l Observation | ns: | | | | | - | | ··· | <u> </u> | - |
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| Begi | Beginning Stage | | Ending Stage: | | | Total Q: | | | | | |
| | Channel Width: | | | Total Area: | | | Average Velocity: | | | | |
| | | | m to Water Surfac | | Start: | | | | End: | | |
| Meas. type: Price AA Pygmy | | | Data Coll. Type: Aqua Calc Sheet | | | Aqua Calc Transect #: | | | | | |

| | | | | | Strea | am Di | SCIIa | ige meas | urement | | | _ | |
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| | Station # | | | | Depth (ft.) | Observation Depth | Revs. | Time - in | Velocity (f/s) | |). 9f. | | |
| Time | | Angle Coefficient Distance (from | Distance (from initial Point-ft.) | Middth Mointert.) | | | | | At Point | Mean in Ver- tical | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (cfs) |
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| Missouri WBID#: un | classified | Site Location Des | Site Location Description: | | | | | | |
|-------------------------------------|--|---------------------------------------|---|-------------------------|--|--|--|--|--|
| Site Lat/Long: # 1103/0 | 130307/407/5/01 | | | | | | | | |
| Date & Time: 10/20/04 | 1525 | Facility Name: | + | | | | | | |
| Personnel: Rulum | | Permit Number: | <u> </u> | | | | | | |
| Current Weather Cond | litions: Overcust | | ons for Past 7 days: |)4-4 | | | | | |
| Photo Ids: Upstream | | tream: | Weather Conditions for Past 7 days: Overcast cam: Other: Dutte 36-37 21-24 | | | | | | |
| <u> </u> | ", | | Total prous | 20 27 31 - 27 Em 2.2 | | | | | |
| Used Observed*: | | | | 99 | | | | | |
| ☐ Swimming | ☐ Skin Diving | C SCUBA diving | ☐ Tubing | □ □ Water Skiing | | | | | |
| ☐ Wind surfing | ☐ Kayaking | ∐ Boating | L ¹ Wading | Rafting | | | | | |
| Hunting | ☐ Trapping | ☐ Fishing | None of the above | COther | | | | | |
| Describe: (include num | ber of individuals re | ecreating, frequency | of use, photo-docume | ntation of | | | | | |
| evidence of recreations | al uses, etc. | O , , , | | | | | | | |
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| Surrounding Condition | ons* (Mark all that or | omote or impode reco | eational uses. Attach pho | - - | | | | | |
| unusual items of interest.) | ons . (mark an that pr | omote or impede recre | ational uses. Attach pho | otos of evidence or | | | | | |
| □ City/county parks | - | - MDC | | | | | | | |
| □ City/county parks □ Playgrounds □ | | ☐ MDC conservation | on Urban areas | Campgrounds | | | | | |
| TRoating accesses | - State powles | lands | | | | | | | |
| ☐ Boating accesses | ☐ State parks | ☐ National forests | | _□ Stairs/walkway | | | | | |
| □ No trespass sign | □ Fence | Steep slopes | ☐ Other: | <u></u> | | | | | |
| Evidence of Human U | ca*. | | | | | | | | |
| _ | | | <u> </u> | 1. | | | | | |
| ▼Roads | □ Foot | 🗆 Dock/platfor | | RV/ATV Tracks | | | | | |
| 7/4/- | paths/prints | | Watering | <u> </u> | | | | | |
| □ Rope swings □ Campin | | es 🛘 🗆 Fire pit/ring | ☐ NPDES | Fishing Tackle | | | | | |
| | | | Discharge | • | | | | | |
| Other: | | | | | | | | | |
| Dest Dusc | have oures | | | | | | | | |
| | —————————————————————————————————————— | · · · · · · · · · · · · · · · · · · · | | | | | | | |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

| □ Run | Width(ft) | ensions: Length(ft) | Ave. Depth(ft) | Ma> | c. Depth(ft) |
|--------------------|--------------------|------------------------|------------------------------|----------|-------------------|
| | Width(ft) | Length(ft) | Ave. Depth(ft) | Max | :. Depth(ft) |
| ¹X Pool | Width(ft) 49 | ン Length(ft) 夕 | 20 ' Ave. Depth(ft) | | Depth(ft) 1.2 |
| □ Flow | Present? | es No | Estimated (ft ³ / | sec): | |
| Downstrea | am View Physical [| oimensions: | | | |
| X Riffle | Width(ft) 45 | ' Length(ft) 5 | ン Ave. Depth(ft) | 0,95 Max | k. Depth(ft) /, 3 |
| □ Run | Width(ft) | Length(ft) | Ave. Depth(ft) | | . Depth(ft) |
| ☐ Pool | Width(ft) | Length(ft) | Ave. Depth(ft) | Max | . Depth(ft) |
| ☐ Flow | Present? | es No | Estimated (ft³/ | sec): | 1.0 |
| Willows, | | weed along your | tion or algal growth | | re on Substrate |
| Odor: | ☐ Sewage | ☐ Musky | □ Chemical | √None | ☐ Other |
| Color: | X Clear | Green | Gray | □ Milky | ☐ Other |
| | ☐ Sludge | □ Solids | | □ None | ∐ Other |
| Bottom Deposit: | | | 744.1 | | |
| | J Oil | □ Scum | □ Foam | ₩None | □ Other |

Stream Morphology & Discharge Measurements

| Start Tin | me: <u>/</u> 5 | <u> </u> | | | | | | End Time: | 15:20 | <i>¬</i> |
|------------------------|--|-----------------|---------------|---------------|--------------|--------------|-----------|--|--------------|---------------|
| Measured | by: <u> </u> | <u> 1000 - </u> | Air | Temp: | 50°F | - | V | Weather Cond: | | -1,- |
| | | | Stream M | lorpholo | gy Betwe | en Trans | ects | | | - |
| | Le | ngth of Poo | ls | | Length of Ru | n | | Length of Riffl | les | |
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| LDB Angle: | | F | Streai | | hology At | Transect | | Turb | idity (NTU): | |
| Channel Comp (%): | c | Cobble | 15 5 (en | Gravel | 30_ | Sand_ | 50 | Silt_ | <u> </u> | ,,,,,,, |
| Bank Compostion | <u>F</u> , | lar Fry | 1 Com | 14000 | <u> </u> | . | <u> </u> | | | |
| Riparian Corridor Dens | | | arian Area: | | | | _ | | | |
| | C | Jompostion | of Riparian V | /egitation: ् | | <u> </u> | | | | |
| General Observations | <u> </u> | 600 | <u> </u> | 2 | Otherwood | | / | 12/4, | | |
| | | | | | rge Meası | urements | - | · | | |
| Beginning Stage | | | | | | | | Total Q: | | |
| Channel Width | | | | Агеа: | | | Aver | age Velocity: _ | | |
| Distance from I | | | | Start: | | | | End: | | |
| Meas. type | 8: Price A/ | A Pygmy | Data Coll. T | Type: Aqua | Calc Sheet | A | lqua Calc | Transect #: | | |

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| Time | Station# | Angle Coefficient | Distance (from initial Point-ft.) | Width | Depth (ft.) | Observation Depth | Revs. | Interval Time - in seconds | At Point | Mean in Ver- | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (cf |
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| Missouri WBID #: w | nelessified | Т | Site Location Descr | intion: | , <u> </u> |
|-------------------------------|--|--|--------------------------------|--|---------------------------------------|
| Site Lat/Long: #/64 | | , - | FG Rwen des | • | |
| Date & Time: 10/20/0 | V 1545 | \Box | Facility Name: | rayes | · · · · · · · · · · · · · · · · · · · |
| Personnel: Rm / Nm | <u>. 1012</u> | | Permit Number: | | <u> </u> |
| Current Weather Conc | itions: Overcast | —— | Weather Condition: | for Past 7 days | Duccast |
| Photo Ids: Upstream | | | | Other: photos | 35 38 m |
| | | | | | 34-37 |
| Used Observed*: | · | | | | |
| ☐ Swimming | ☐ Skin Diving | | SCUBA diving |] Tubing | ☐ Water Skiing |
| L Wind surfing | ☐ Kayaking | <u> </u> | Boating [|] Wading | ☐ Rafting |
| ☐ Hunting | ☐ Trapping | | Fishing | None of the above | e "i Other |
| Describe: (include num | ber of individuals | recr | eating, frequency of | use, photo-docume | ntation of |
| evidence of recreation | al uses, etc. | | . , | | |
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| Surrounding Condition | ons* (Mark all that n | rom | ote or impeda recreat | ional Attack | **F1. |
| unusual items of interest.) | Mes . Wolank all Eller | 1011 | ote or impede recreat | ional uses. Attach рл | otos of evidence or |
| ☐ City/county parks | ☐ Playgrounds | | MDC sangarination | | 1 = - |
| delity/county parks | - Haygrounds | - | MDC conservation lands | X Urban areas | ☐ Campgrounds |
| ☐ Boating accesses | | | | <u> </u> | |
| | ☐ State parks | - | National forests | ☐ Nature trails | ☐ Stairs/walkway |
| □ No trespass sign | □ Fence | × | Steep slopes | □ Other: | |
| | | | | a other. | · |
| Evidence of Human U | se*: | | | G Other. | |
| Evidence of Human U | | | □ Docklolatform | | D Dyta TV T |
| Evidence of Human U Roads | □ Foot | | ☐ Dock/platform | □ Livestock | □ RV/ATV Tracks |
| XRoads | ☐ Foot paths/print | | · | LivestockWatering | |
| | □ Foot | | ☐ Dock/platform☐ Fire pit/ring | ☐ Livestock Watering ☐ NPDES | ☐ Fishing Tackle |
| X Roads ☐ Rope swings | ☐ Foot paths/print | | · | LivestockWatering | ☐ Fishing Tackle |
| →Roads ☐ Rope swings | ☐ Foot paths/print: ☐ Camping Si | tes | ☐ Fire pit/ring | ☐ Livestock Watering ☐ NPDES | ☐ Fishing Tackle |
| ☐ Rope swings ☐ Other: | ☐ Foot paths/print | tes | ☐ Fire pit/ring | ☐ Livestock Watering ☐ NPDES | ☐ Fishing Tackle |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

| ☐ Riffle | iew Physical Dir Width(ft) | Length(ft) | Ave. Depth(ft) | Max | . Depth(ft) | |
|--|----------------------------------|--|--|--------------|--------------|----------|
| Run | Width(ft) | Length(ft) | Ave. Depth(ft) | Max | . Depth(ft) | |
| Pool | Width(ft) (| co Length(ft) | 75 Ave. Depth(ft) | /,/ Max | . Depth(ft) | 2.0 |
| Flow | Present? | Yes (No) | Estimated (ft³/ | sec): | | |
| Downstream | n View Physical | Dimensions: | | | | |
| Riffle | Width(ft) | Length(ft) | Ave. Depth(ft) | Max | c. Depth(ft) | |
|] Run | Width(ft) | Length(ft) | Ave. Depth(ft) | Max | . Depth(ft) | |
| \$∠Pool | Width(ft) | S' Length(ft) | 300' Ave. Depth(ft) | 1.0 Max | . Depth(ft) | <u> </u> |
|] Flow | Present? | Yes (No) | Estimated (ft³/: | sec): | | |
| | | | | | | LONCE |
| No algo | ae on subsh | ute, inflows, | tation or algal growth Smuchosed Ming ; | | | CONCC |
| No algo Water Char | ae on subsh | | smarhored along | | | CONCC |
| No alga Water Char Odor: | acteristics*: (M | ate in intlows , ark all that apply | smuchused along ; | gwel buc / | bookes | Conce |
| No alga Water Char Odor: Iolor: Bottom | acteristics*: (M | ark all that apply. Musky | Smuchosed Along ; Chemical | Mone | □ Other | Conco |
| No algo | acteristics*: (M Sewage XClear | ark all that apply. Musky Green | Smuchored Along ; Chemical Gray Fine | Mone D Milky | Other | LONCE |

Appendix A River des Peres Site Photographs

Site #9. Upstream View



Site #9. Downstream View



Site #10. Upstream View



Site #10. Downstream View



Stream Morphology & Discharge Measurements

| | Start Tin | ne: <u>75</u> 5 | 15" | | | | | | Елd Time: | 1600 | - 7 |
|--------------|---|------------------|--|---------------|---------------|------------------|------------------|---------------------------------------|--|----------------|----------|
| | Measured I | зу: <u>/////</u> | dir | Air | Temp: | 1008 | - | We | ather Cond: | | |
| | | | | Stream M | lorpholo | gy Betwe | en Trans | ects | ·· <u>.</u> | | |
| Ι. | | L | ength of Poo | ls | 1 | Length of Rui | n | L | ength of Riff | les | |
| <u> </u> | | | Start GPS | • | | | | | Start GPS | | |
| | # | ft. | # | End GPS # | ft. | Start GPS # | End GPS# | ft. | # | End GPS# | |
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| | 15 | | 1 | | | | - - | | | | |
| | - · · · · · · · · · · · · · · · · · · · | | <u> </u> | Stree | m Marni | in la contra A f | | | | | <u> </u> |
| | DB Amela. | | _ | | | | Transect | | | | |
| Li | DB Angle: | - | ŀ | RDB Angle: _ | _ | : | Secchi (ft) _ | | _ Turb | idity (NTU): _ | |
| ··- | | - | | _ | | <u> </u> | | _ | | | |
| | Comp (%): | | Copple | 20 | Gravel | 30 | Sand_ | 30 | Sitt | | |
| | | | Other | 20 Core | do | | | - | _ | | |
| Bank Co | mpostion | 1/ | lat rip | Kasi | ·*>, 2 - 5 | 10 1000 | · · | | | | <u> </u> |
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| Rinarian C | Corridor Dens | ibr. | Width of Div | | | | ·. | | | | |
| icibariais C | SOLUMOL DEUS | • | Width of Rip | _ | | | | | | | |
| | | | Compostion | of Riparian V | /egitation: _ | | | | | | |
| General (| Observations: | | | | | | | · · · · · · · · · · · · · · · · · · · | | | |
| Ochicial (| Chael Agnoria, | | | | | | | | | | |
| | | | | - | | | <u> </u> | | | | |
| | | | · | Strear | n Discha | rge Measu | rements | - | | | |
| Begin | ning Stage | | | | | | | | Total O- | | |
| _ | Channel Width | ı: | | | Area: | | | Buerse | ge Velocity: _ | | |
| | istance from ! | | Water Surfac | | Start: | | | WAGIGE | End: | | |
| | Meas, type | | | | Type: Aqua | Caic Sheet | A | qua Calc T | | | |

| | · | 1 | | | | | Ţ | | Veloc | sity (f/s) | | | |
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| Time | Station # | Angle Coefficient | Distance (from initial Point-ft.) | Width | Depth (ft.) | Observation Depth | Revs. | Interval Time - in seconds | At Point | Mean in Ver- | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (cf |
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| | ļ | | | 68.0 | 0.6 | | | | | <u> </u> | | 1 | |
| | | <u> </u> | | 13.0 | 1.02 | | | | | | | | <u> </u> |
| | | <u> </u> | | 78.0 | 1.6 | | | | <u> </u> | İ | | | |
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| Missouri WBID #: 1 | 구() | Site Location D |)escription: | |
|--|--|--|---------------------------------|----------------------------------|
| Site Lat/Long: #/65 | | 3 T-10 Parer 0 | | |
| Date & Time: 10/20/ | 04 1620 | Facility Name: | ies peres | <u> </u> |
| Personnel: pm/wn | - <u> </u> | Permit Number | | <u></u> |
| Current Weather Con- | ditions: Overcast | | tions for Past 7 days: 🎉 | 7 |
| Photo Ids: Upstream | | stream: | Other plutor 3 | a do |
| Used Observed*: | | | - France 2 | 3 47 |
| Swimming | ☐ Skin Diving | ☐ SCUBA diving | □ Tubing | ☐ Water Skiing |
| C Wind surfing | ☐ Kayaking | ☐ Boating | ☐ Wading | ☐ Rafting |
| ∐ Hunting | ☐ Trapping | ☐ Fishing | None of the above | |
| Describe: (include nun | ber of individuals | recreating frequen | cy of use, photo-docume | - - Other |
| Surrounding Conditions of interest. City/county parks | ons*: (Mark all that p) ☐ Playgrounds | oromote or impede red □ MDC conservations | ereational uses. Attach phation | otos of evidence or |
| ☐ Boating accesses | ☐ State parks | ☐ National fores | ts 🗆 Nature trails | |
| | | | | - Stairshvalkway |
| 🛮 No trespass sign | ☐ Fence | ☐ Steep slopes | | Stairs/walkway |
| No trespass sign Evidence of Human U | Jse*: | □ Steep slopes | | □ Stairs/walkway |
| | | ☐ Dock/platfo | Other: | |
| Evidence of Human U | Jse*: | ☐ Dock/platfo | Other: Drm | ☐ RV/ATV Tracks ☐ Fishing Tackle |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

| Stream Morphol Upstream Viev | ogy: v Physical D <u>imens</u> | ions: | | | |
|--|---|---|--|---|--|
| | idth(ft) | Length(ft) | Ave. Depth(ft) | Max. D | epth(ft) |
| _ - | /idth(ft) 24 | Length(ft) 50 | O'Ave. Depth(ft) | 0,85 Max. D | epth(ft) <i>1, 0</i> |
| | /idth(ft) | Length(ft) | Ave. Depth(ft) | Max. D | epth(ft) |
| □ Flow Pr | esent? Yes | (No) | Estimated (ft³/s | ec): | |
| Downstream \ | /iew Physical Dim | ensions: | | | |
| _ | idth(ft) 27' | | / Ave. Depth(ft) | 0.8 Max. D | Pepth(ft) /, O |
| | /idth(ft) | Length(ft) | Ave. Depth(ft) | Max. D | epth(ft) |
| □ Pool W | /idth(ft) | Length(ft) | Ave. Depth(ft) | Max. D | epth(ft) |
| ☐ Flow Pr | esent? (és |) No | Estimated (ft³/s | ec): 0.5 | |
| Substrate*: (T | hese values shoul | d add up to 1009 | 6) | | |
| 50 %Cobble | 40 %Grav | | | 一 %Mud/Cla | y — %Bedrock |
| | tation*: (note amo | | on or algal growth | at the assessme | ent site) |
| , | teristics*: (Mark a | | 10 | | |
| Odor: | ☐ Sewage | ☐ Musky | ☐ Chemical | X None | □ Other |
| Color: | 火 Clear | ☐ Green | X Gray | □ Milky | □ Other |
| Bottom Deposit: | ☐ Sludge | ☐ Solids | Fine sediments | □ None | ☐ Other |
| Surface Deposit: | ∃ Oil | □ Scum | ☐ Foam | XNone | □ Other |
| Comments: Please *This information more comprehens | is not to be used so sive understanding on on the recreatio | olely for removal o of water condition | ns. Consequently, th | ct recreation but his information is | ews) to this form. rather is to provide a not intended to directly rther analysis or that |
| datasheet is tru | e and accurate. | | _ | | reported on this UAA |
| Signed: / //wed | Mart | Date | :: <u>/0/z<i>0/0</i></u> ition: <i>Envivonn</i> | ref | <u></u> |
| Organization:, | MEC Water F | Resources_Pos | ition: <i>Environn</i> | rental Speci | ulist_ |

Stream Morphology & Discharge Measurements

| Start Time; | | , | | | · - | | End Time; | 16 | 30 |
|----------------------------|--------------------|-------------------|-------------|--|--|---------------|------------------|---------------|-------------|
| Measured by: | KW NM | Air - | Temp: | 50 F | - | 1 | Weather Cond: | | |
| | | Stream M | orphol | ogy Betwe | en Trans | | - | <u> </u> | |
| l | Length of Poo | | | Length of Ru | | | Length of Riff | les | |
| | Start GPS | | | | | [| Start GPS | | 1 |
| # # | t. # | End GPS # | ft. | Start GPS # | End GPS# | | # | End GPS # | |
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| 15 | - - | | | + | | | | | |
| LDB Angle: | <u> </u> | Strear | | hology At | Transect | | Turb | oidity (NTU): | r |
| Channel Comp (%): | Cobble | 50 | Grave | 1 40 | Sand_ | 10 | Silt_ | | |
| <u></u> | Other | | | | | | | · · · · · | |
| Bank Compostion | 140 100 | <u> </u> | .*- | | | | | | |
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| Riparian Corridor Density: | Width of Rip | arian Area: | | | _ | · <u> </u> | | · , | |
| • | | of Riparian V | | | | | | - | |
| | VOINPOOLO. | of Kibasiais e | egitaloon. | | · | | · | <u> </u> | |
| General Observations: | · | | | | | <u> </u> | | | <u>.</u> |
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| | | Stream | n Disch: | arge Meası | urements | _ | | | <u> </u> |
| Beginning Stage | | | | - | | | Total Q: | | |
| Channel Width: | | | | | | Ave | rage Velocity: | | |
| Distance from Datu | m to Water Surfac | | Start: | | | | End: | | |
| Meas. type: | Price AA Pygmy | Data Coll. T | ype: Aqu | ia Caic Sheet | | Aqua Calc | Transect #: | | |

| | | · · · · · | | | T- 0::3 | | 1 | | uremen Vel | oci | ty (f/s) | . 1 | T - | · <u> </u> |
|--------------|-----------|----------------------|--|---------|--------------|--|----------|-------------------------------|----------------|----------|--------------|----------------------------|--|--|
| Time | Station # | Angle Coefficient | Distance (from initial Po≀nt-ft.) | Width | Depth (ft.) | Observation Depth | Revs. | Interval Time - in seconds | At Point | | Mean in Ver- | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (cf |
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| Missouri WBID #: | 711 | Site Location | Description: | |
|---|---------------------------|--|--|------------------------------------|
| Site Lat/Long: # 166(| | J THI Pines | | |
| Date & Time: 10/20/0 | 4 1030 | Facility Name | | |
| Personnel: KNINM | | Permit Number | | <u> </u> |
| Current Weather Cond | litions: Owicast | | litions for Past 7 days: | Dispersal |
| Photo Ids: Upstream | | stream: | Other: plustes 4 | |
| Used Observed*: | | | , , , , , , , , , , , , , , , , | 770 |
| ☐ Swimming | ☐ Skin Diving | ☐ SCUBA diving | ☐ Tubing | ☐ Water Skiing |
| . □ Wind surfing | ☐ Kayaking | ☐ Boating | ☐ Wading | ☐ Rafting |
| | ☐ Trapping | ☐ Fishing | None of the abo | |
| Describe: (include num | | recreating freque | ncy of use, photo-docum | nentation of |
| evidence of recreation | al uses, etc | O, I I | | |
| Surrounding Condition unusual items of interest.) City/county parks | ons*: (Mark all that p | romote or impede r MDC conserverselands | ecreational uses. Attach pration X Urban areas | Ohotos of evidence or Campgrounds |
| ☐ Boating accesses | ☐ State parks | ☐ National fore | sts | Ll Stairs/walkway |
| □No trespass sign | □ Fence | Steep slope | | |
| Evidence of Human U | | | | |
| Roads | !□ Foot i paths/print: | □ Dock/plat | form 🗆 Livestock Waterin | ₹ RV/ATV Tracks |
| □Rope swings | ☐ Camping Si | tes 🛘 Fire pit/rii | | ☐ Fishing Tackle |
| XOther: | | | | ₹♥ |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

| Riffle | Width(ft) | | Length(ft) | Ave. Depth(ft) | <u> </u> | . Deptl | n(ft) | |
|--|--|-------------------------------|--|---|---|--------------------------------------|-------------------------------------|--|
| Run | Width(ft) | 40 | Length(ft) 2 | いわ Ave. Depth(ft) | 0.75 Max. | Depth | ı(ft) | 1,0 |
| Pool | Width(ft) | | Length(ft) | Ave. Depth(ft) | Max. | Depth | (ft) | |
| Flow | Present? | Yes | ∞ | Estimated (ft³/s | sec): | | | <u> </u> |
| Downstrea | am View Physi | cal Dim | ensions: | | | | | |
|] Riffle | Width(ft) | | Length(ft) | Ave. Depth(ft) | Max | . Deptl | h(ft) | |
| Run | Width(ft) | 35 | Length(ft) ろ | מס Ave. Depth(ft) | 0.75 Max | . Depth | 1(ft) | 1,08 |
| Pool | Width(ft) | | Length(ft) | Ave. Depth(ft) | Max. | . Depth | n(ft) | |
|] Flow | Present? | Yes | (No) | Estimated (ft³/s | sec): | | | |
| | ble 40 | %Gray | el <i>9</i> 0 %S | | | lay | • | •••• |
| Aquatic V | egetation*: (n | ote amo | ount of vegetar | tion or algal growth | at the assessi | | | 6Bedroc |
| Aquatic V | egetation*: (n | ote amo weed al (Mark a | ount of vegetar one knoks of in Il that apply.) | gund but in cl | at the assessi | ment s | ite) | |
| Aquatic V passes , i.v. Water Cha Odor: | egetation*: (note that the second sec | ote amo weed al (Mark a | ount of vegetal one tanks in Il that apply.) — Musky | gwel box in al | at the assessi | ment s | ite) Other | , |
| Aquatic V Mater Cha Odor: Color: Bottom | egetation*: (n | ote amo weed al (Mark a | ount of vegetar one knoks of in Il that apply.) | gund but in cl | at the assessi | ment s | ite) | , |
| grasses is | egetation*: (note that it is a second to the | ote amo weed al (Mark a | ount of vegetar one kanks 1/10 If that apply.) Musky Green | Chemical Gray Kine | at the assessi ornel **None Milky | ment s | ite) Other Other | |
| Water Char Odor: Color: Bottom Deposit: Surface Deposit: fomments: | egetation*: (notation is not to be recision on the recision in the recision in the recision in the recision on the recision in the recision on the recision in the recision in the recision in the recision in the recision in the recision in the recision in the recision in the recision in the recision in the recipion in | ote amo | Il that apply.) Musky Green Solids Scum | ☐ Chemical ☐ Gray ☐ Fine Sediments | None Milky None Whone | rviews) | Other Other Other I to the | is form. |
| Water Character Character Character Character Color: Bottom Deposit: Surface Deposit: Omments: This informatione compressifiuence a deffect another the understatasheet is | egetation*: (negetation*: (negetation*: (negetation*: (negetation*: (negetation*: Sewas) College | addition affirm arate. | Il that apply.) Musky Green Solids Scum Scum Ithat apply.) Green Solids | Chemical Chemical Cray Fine sediments Foam (including informations. Consequently, t | None Milky None None None Interpretation be his information tions that need | rviews) ut rather is not in further. | Other Other Other other other analy | is form. provide ed to dir sis or tha |

Appendix A River des Peres Site Photographs

Site #11. Upstream View



Site #11. Downstream View



Site #12. Upstream View



Site #12. Downstream View



Stream Morphology & Discharge Measurements

Project Name/Number: MSL Fine des Perconomies 1620.

Site/Transect ID Number: T-11 - 166

| Start Time: | 16.30 | | | | | | End Time: | 1645 | |
|---------------------------|--------------------|--------------------|---|---------------|--|-------------|--|--|-----|
| Measured by: | KNAM | . Air | / Temp: | 50°F | | We | | Aucun | |
| | | Stream N | Morphol | logy Betwe | en Trans | ects | · · · · · · · | | |
| | Length of Poo | ols | | Length of Ru | n | L | ength of Riff | les | |
| | Start GPS | | | | T | | Start GPS | | |
| # | ft. # | End GPS# | <u> </u> | | End GPS# | ft. | # | End GPS# | |
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| 14 | | | <u> </u> | | | | | | |
| 15 | | | | | <u> </u> | | | <u> </u> | |
| | | Strea | am Morj | phology At | Transect | ţ | | | |
| LDB Angle: /// | 21.75 | RDB Angle: | 1.5 | 12% | Secchi (ft) | .—- | Turi | hidity (NTU): | |
| LOB Angle: <u>///</u> | ., | A 40.5 | 1 513 | <u></u> /* | _ | | _ | | |
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| Сћалле/ Сотр (%): | Cobble | | Grave | el <u>40</u> | Sand_ | 20 | _ Silt | | |
| | Other | <u>-</u> | | | | | | | |
| Bank Compostion | Flor rip va | <u>p 1200.</u> | : : | | | | | | |
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| Riparian Corridor Density | : Width of Rij | parian Area: | | | | | | | · |
| | | - n of Riparian | | | | | | | |
| | Composito | ii Oi Ripaliais | vegnanon | · | | | | · | |
| Consul Observations | | | | | | | | | |
| General Observations: | • | | | | | | | | - |
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| Beginning Stage | | | | • | | | T | | |
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| _ | tum to Water Surfa | | | - | | Avera | ge Velocity: | | |
| | Price AA Pygmy | | Start: | ua Calc Sheet | | | End; Fransect #: | | |

| | | | | | Stre | am Di | scna | rge Mea | suremer | ILS |) ' 46'-) | | 1 | |
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| Time | Station # | Angle Coefficient | Distance (from Initial Point-ft.) | Width | Depth (ft.) | Observation Depth | Revs. | Interval Time - In seconds | At Point | | ity (f/s) Mean in Ver- tical | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (cf: |
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| Missouri WBID #: | 1711 | Site Location De | scription; | |
|--|-------------------|--------------------------------|--|----------------------------------|
| Site Lat/Long: #167(| 0737400/4271040 | | | |
| Date & Time: 10/20/09 | 1 1650 | Facility Name: | | |
| Personnel: Pullim | | Permit Number: | | |
| Current Weather Cond | litions: Overcast | Weather Conditi | ons for Past 7 days: A | vercest |
| Photo Ids: Upstream | : Downs | stream: | Other: puctos 2 | |
| Used Observed*: | | | • | |
| ☐ Swimming | ☐ Skin Diving | ☐ SCUBA diving | ☐ Tubing | ☐ Water Skiing |
| ☐ Wind surfing | ☐ Kayaking | ☐ Boating | ☐ Wading | ☐ Rafting |
| ☐ Hunting | □ Trapping | ☐ Fishing | None of the above | □ Other |
| Surrounding Condition Unusual Items of Interest. □ City/county parks | | romote or impede reci | reational uses. Attach pho ion X Urban areas | tos of evidence or Campgrounds |
| ☐ Boating accesses | ☐ State parks | □ National forest | s 🗆 Nature trails | |
| ☐ No trespass sign | ☐ Fence | | | - Stairchualkway |
| | i i i rence | i X III. Steep slopes i | I⊟ Other: | ☐ Stairs/walkway |
| Evidence of Human (| Jse*: | Steep slopes Dock/platfo | | |
| Evidence of Human (| Jse*: | ☐ Dock/platfo | rm □ Livestock Watering | ☐ RV/ATV Tracks ☐ Fishing Tackle |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

| Downstream View Riffle Widt Riffle Widt Run Widt Rool Widt Rhow Prese Substrate*: (These Water Characteri Odor: Color: Bottom Deposit: Surface Deposit: | n(ft) 35' n(ft) nt? Yes Physical Dim n(ft) 40' n(ft) 35' n(ft) 40' nt? Yes e values shou 20 %Grav on*: (note am | Length(ft) Length(ft) Length(ft) No Id add up to 10 vel 50 %: ount of vegeta | Ave. Depth(ft) Estimated (ft³/ D' Ave. Depth(ft) D' Ave. Depth(ft) S' Ave. Depth(ft) Estimated (ft³/ O%) Sand — %Silt tion or algal growth S & IN Grav Chemical | # None D. 1 Max D. 1 Max D. 5 Max D. 5 Max D. 6 Mud/(at the assess D. 6 Milky Milky | Clay % | |
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| Downstream View Riffle Widt Riffle Widt Run Widt Rool Widt Rhow Prese Substrate*: (These Water Characteri Odor: Color: Bottom Deposit: Surface Deposit: | Physical Dim (ft) 40° (f | Length(ft) nensions: Length(ft) Length(ft) No Id add up to 10 vel 57 % ount of vegeta Sulmy ban all that apply.) Musky Green | Ave. Depth(ft) Estimated (ft³/ 5D' Ave. Depth(ft) DU' Ave. Depth(ft) Solve Stimated (ft³/ Estimated (ft³/ O%) Sand — %Silt tion or algal growth Solve Stimated Chemical Chemical | Max sec): O 1 Max O 5 Max O 5 Max Sec): O 6 Max Max Max Max Max Max Max Max Max Max | x. Depth(ft) x. Depth(ft) x. Depth(ft) x. Depth(ft) Clay | 0.5 1.0 1.9 6Bedrock |
| Downstream View Riffle Widt Riffle Widt Run Widt Rool Widt Flow Prese Substrate*: (These Water Characteri Odor: Color: Bottom Deposit: Surface Deposit: | r Physical Dim (ft) 40' h(ft) 25' h(ft) 40' h(ft) 4 | nensions: Length(ft) & Length(ft) & Length(ft) & No Id add up to 10 yel & 50 % % ount of vegeta & Way bank all that apply.) Musky Green | Estimated (ft ³ / DD' Ave. Depth(ft) DD' Ave. Depth(ft) Fo' Ave. Depth(ft) Estimated (ft ³ / O%) Sand —%Silt tion or algal growth HS 3 JM Gravel Chemical DC Gray | O·I May O·S Max I·S Max sec): — %Mud/C at the assess Laci. No au | x. Depth(ft) x. Depth(ft) x. Depth(ft) Clay | 1,0 1,9 6Bedrock |
| Downstream View Riffle Widt Riffle Widt Riffle Widt Rool Widt Pool Widt Prese Substrate*: (These Cobble Aquatic Vegetation Water Characteri Odor: Color: Bottom Deposit: Surface Deposit: | Physical Dim (ft) 40' (ft) 25' (ft) 40' (f | Length(ft) & Length(ft) & Length(ft) & Length(ft) & Length(ft) & Length(ft) & Mo Id add up to 10 well 50 %: ount of vegeta & World bare all that apply.) Musky Green | D' Ave. Depth(ft) DU' Ave. Depth(ft) S' Ave. Depth(ft) Estimated (ft³) O%) Sand — %Silt tion or algal growth S & IN Gravel Chemical | O. I Max O. S Max I. S Max sec): O. C — %Mud/o at the assess Lac. No au None Milky | Clay 7 Clay 7 Chart site) Control C | 1,0 1,9 6Bedrock |
| Riffle Widt Run Widt Pool Widt Pool Widt Prese Substrate*: (Thes Webstrate*: (Thes W | n(ft) 40 h(ft) 25 h(ft) 40 h(f | Length(ft) & Lengt | Ave. Depth(ft) Sand ——%Silt tion or algal growth S J IN Gravel Chemical | O. 5 Max / 15 Max sec): O. C. — %Mud/c at the assess Lact. No at Milky | Clay 7 Clay 7 Chart site) Control C | 1,0 1,9 6Bedrock |
| Widt Widt West Widt West Widt West Widt West | n(ft) 25 n(ft) 40 nt? (es e values shou 20 %Grav on*: (note am wed / Willow stics*: (Mark a Sewage Clear | Length(ft) J Length(ft) J No Id add up to 10 vel 50 % ount of vegeta Sulmy ban all that apply.) Musky Green | Ave. Depth(ft) Sand ——%Silt tion or algal growth S J IN Gravel Chemical | O. 5 Max / 15 Max sec): O. C. — %Mud/c at the assess Lact. No at Milky | Clay 7 Clay 7 Chart site) Control C | 1,0 1,9 6Bedrock |
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| Substrate*: (These 20 %Cobble Aquatic Vegetation e values shou Con*: (note am Wed / Willow stics*: (Mark a Sewage Clear | Id add up to 10 vel 50 %: ount of vegeta Sulony ban all that apply.) Musky Green | 0%) Sand —%Silt tion or algal growth 45 \$ IN Gravel □ Chemical □ Gray | — %Mud/on at the assess lace. No as | Clay — 9 sment site) lgae on Sal | estrack |
| Aquatic Vegetatic Surface Deposit: | on*: (note am weed / Willow stics*: (Mark a Sewage Clear | ount of vegeta Suny ban all that apply.) Musky Green | tion or algal growth Solve of the gravel Chemical Chemical | at the assess Lacr. No as | sment site) lgae on Sal | estrack |
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| Color: X Bottom Deposit: Surface Deposit: | Clear | ☐ Green | D √ Gray | ☐ Milky | | |
| Bottom Deposit: Surface Deposit: | | | | | │ □ Other | |
| Deposit: Surface Deposit: | Sludge | l 🗆 Salida | | 1 | " . | |
| Deposit: | | 501143 | Fine sediments | □ None | □ Other | |
| <u>, </u> | Oil | □ Scum | □ Foam | XNone | □ Other | |
| This information is note comprehensive offluence a decision of fect another use. the undersigned, latasheet is true ar | ot to be used sunderstanding the recreation the recreation the recreation that is a second to be | solely for remova g of water condit on use analysis b to the best of | including informations of whole body contains. Consequently, the transpoint to conditions with the conditions of the con | act recreation b his information itions that need | out rather is to n is not intende d further analys on reported o | provide a ed to direct sis or that on this UA |
| igned: <u>Julia</u> Organization: <u>Ma</u> | Mut | Da | ate: 10/20/04 | | | _ |

Stream Morphology & Discharge Measurements

Project Name/Number: ACL Francisco forms

Date/Time: 10/00/04 / 1650 Site/Transect ID Number: 7-12 - 1/2 -Start Time: 1650 End Time: 1705 Measured by: RM/IIII Air Temp: 50°F Weather Cond: Overland Stream Morphology Between Transects Length of Pools Length of Run Length of Riffles Start GPS Start GPS ft. End GPS # Start GPS # End GPS # End GPS# 2 3 5 6 7 ŝ 9 10 11 12 13 14 15 Stream Morphology At Transect RDB Angle: Secchi (ft) LDB Angle: --Turbidity (NTU): _____ Silt --Channel Comp (%): Other Bank Compostion Riparian Corridor Density: Width of Riparian Area:

Stream Discharge Measurements

Total Area:

Data Coll. Type: Aqua Calc Sheet

Start:

Compostion of Riparian Vegitation:

Ending Stage:

General Observations:

Beginning Stage

Channel Width:

Distance from Datum to Water Surface:

Meas. type: Price AA Pygmy

Aqua Calc Transect #:

Total Q: ____

Average Velocity:

End:

| | | | | | Stre | am Di: | <u>scha</u> | rge Meas | suremen | <u></u> | | , | |
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| Time | Station # | Angle Coefficient | Distance (from initial Point-ft.) | Width | Depth (ft.) | Observation Depth | Revs. | Interval Time • In seconds | Veld At Point | Mean in Ver- | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (cf |
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| Missouri WBID #: [3 | 711 | | Site Location Descr | ri pt ion: | |
|--|---|---------|---|---|--|
| Site Lat/Long: #168 (| 737681/427697 | (47 | | es Peres | |
| Date & Time: 10/20/0 | 4 1710 | | Facility Name: | | |
| Personnel: NM12M | | _ | Permit Number: | ·- % ·- | |
| Current Weather Cond | itions: Overcust | | Weather Condition | s for Past 7 days: \mathcal{O}_{V} | eicast |
| Photo Ids: Upstream: | | strea | am: | Other: plistos 5 | |
| Used Observed*: | | | | , | |
| ☐ Swimming | ☐ Skin Diving | a : | SCUBA diving [| ☐ Tubing | □ Water Skiing |
| Wind surfing | ☐ Kayaking | | Boating [| (1) Wading | □ Rafting |
| ☐ Hunting | ☐ Trapping | - | | None of the above | |
| Describe: (include num | | | | | |
| evidence of recreations | | | | , 111, p. 111, 111 and an income | |
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| Surrounding Condition | uns*: (Mark all that o | orom | ote or impede recrea | tional uses. Attach pho | otos of evidence or |
| Surrounding Condition | | orom | ote or impede recrea | tional uses. Attach pho | otos of evidence or |
| unusual items of interest.) | | | · | | |
| | | | ote or impede recrea MDC conservation | · | otos of evidence or Campgrounds |
| unusual items of interest.) □City/county parks | □ Playgrounds | | MDC conservation | | ☐ Campgrounds |
| unusual items of interest.) □City/county parks □Boating accesses | | | MDC conservation lands National forests | n X Urban areas | ☐ Campgrounds |
| unusual items of interest.) □City/county parks | ☐ Playgrounds ☐ State parks | [:] | MDC conservation | n Urban areas | ☐ Campgrounds |
| unusual items of interest.) □City/county parks □Boating accesses | ☐ Playgrounds ☐ State parks ☐ Fence | [:] | MDC conservation lands National forests | n Urban areas | ☐ Campgrounds |
| unusual items of interest.) □ City/county parks □ Boating accesses □ No trespass sign | ☐ Playgrounds ☐ State parks ☐ Fence | [:] | MDC conservation lands National forests Steep slopes | Urban areas Nature trails Other: | Campgrounds Stairs/walkway |
| unusual items of interest.) □ City/county parks □ Boating accesses □ No trespass sign Evidence of Human U | ☐ Playgrounds ☐ State parks ☐ Fence | | MDC conservation lands National forests | Urban areas Nature trails Other: | ☐ Campgrounds |
| unusual items of interest.) ☐ City/county parks ☐ Boating accesses ☐ No trespass sign Evidence of Human U ☐ Roads | ☐ Playgrounds ☐ State parks ☐ Fence se*: ☐ Foot paths/print | E S | MDC conservation lands National forests Steep slopes | Urban areas Under: Livestock | ☐ Campgrounds ☐ Stairs/walkway ☐ RV/ATV Tracks |
| unusual items of interest.) ☐ City/county parks ☐ Boating accesses ☐ No trespass sign Evidence of Human U | ☐ Playgrounds ☐ State parks ☐ Fence Se*: ☐ Foot | E S | MDC conservation lands National forests Steep slopes | □ Nature trails □ Other: □ Livestock | ☐ Campgrounds ☐ Stairs/walkway ☐ RV/ATV Tracks ☐ Fishing Tackle |
| unusual items of interest.) ☐ City/county parks ☐ Boating accesses ☐ No trespass sign Evidence of Human U ☐ Roads ☐ Rope swings | ☐ Playgrounds ☐ State parks ☐ Fence se*: ☐ Foot paths/print | E S | MDC conservation lands National forests Steep slopes | Urban areas Nature trails Other: Livestock Watering | ☐ Campgrounds ☐ Stairs/walkway ☐ RV/ATV Tracks ☐ Fishing Tackle |
| unusual items of interest.) ☐ City/county parks ☐ Boating accesses ☐ No trespass sign Evidence of Human U ☐ Roads | ☐ Playgrounds ☐ State parks ☐ Fence Se*: ☐ Foot paths/print ☐ Camping Si | E S | MDC conservation lands National forests Steep slopes | □ Nature trails □ Other: □ Livestock | ☐ Campgrounds ☐ Stairs/walkway ☐ RV/ATV Tracks ☐ Fishing Tackle |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

| Riffle | iew Physical Dim Width(ft) | Length(ft) | Ave. Depth(ft) | Max. | Depth(ft) |
|---|--|---|--|--|---|
| Run | Width(ft) 12 | | / Ave. Depth(ft) | 0.8 Max. | Depth(ft) 1, 0 |
| Pool | Width(ft) | Length(ft) | Ave. Depth(ft) | Max. | Depth(ft) |
| Flow | Present? | Yes (No) | Estimated (ft ³ /s | ec): | |
| Downstrean | n View Physical I | Dimensions: | · · | | |
| Riffle | Width(ft) | Length(ft) | Ave. Depth(ft) | Max. | Depth(ft) |
| KRun | Width(ft) | | ر (Ave. Depth(ft) | /, / Max. | Depth(ft) /.5 |
| Pool | Width(ft) | Length(ft) | Ave. Depth(ft) | Max. | Depth(ft) |
| Flow | | Yes No | Estimated (ft ³ /s | sec): | |
| 3-0 %Cobb | | Gravel / / / / %Sa amount of vegetation | | - %MudiCl | Concre |
| Ÿ | | lows, smastwered f rk all that apply.) □ Musky | Chemical | Mone | Grael ban. |
| olor: | ∠ Clear | ☐ Green | ⊠ Gray | □ Milky | ☐ Other |
| Bottom Deposit: | ☐ Sludge | □ Solids | A Fine sediments | □ None | [] Other |
| urface | i Oil | □ Scum | 🖰 Foam | None | ☐ Other |
| Deposit: | | | | | |
| his informatione comprehi fluence a dec fect another the undersign tasheet is t | on is not to be usensive understand ision on the recreuse. gned, hereby affire and accurate | ling of water condition ation use analysis but irm to the best of me. | of whole body contains. Consequently, to may point to conditionally that it is to be a second to | ct recreation but his information tions that need all information | t rather is to provide a is not intended to direc further analysis or that n reported on this UA |
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Appendix A River des Peres Site Photographs

Site #13. Left Descending Bank View



Site #13. Downstream View



Site #14. Upstream View



Site #14. Downstream View



Stream Morphology & Discharge Measurements

Project Name/Number: <u>MSA For South</u>

Date/Time: <u>10 10 10 10 0</u>

Site/Transect ID Number: <u>T-13 165</u> "

| Stream Morphology Between Transects Length of Pools Length of Rom Length of Rom Length of Rom Start GPS Ft. Start GPS Ft | Start Time: | 17/20 | _ | | | | | End Time: | 172 | 5 |
|--|---|---------------------------------------|--------------|---------|--|---------------|----------|---------------|--|--------------|
| Stream Morphology Between Transects Length of Pools Length of Run Length of Riffies | Measured by: | DN/NM | Air Te | :mp: | 60°F | - | w | | | |
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| # ft. Start GPS # End GPS # ft. Start GPS # ft. Start GPS # ft. Start GPS # ft. Start GPS # ft. Start GPS # ft. Start GPS # ft. Hend GPS # ft. Start GPS # ft. Hend GPS # f | | Length of Poo | ois | | Length of Ru | n | £ | ength of Riff | ies | |
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| Stream Morphology At Transect LDB Angle: RDB Angle: Secchi (ft) Turbidity (NTU): Channel Comp (%): Cobble Gravel / O Sand / O Silt Other GO Corcola Bank Composition Composition of Riparian Area: Composition of Riparian Vegitation: General Observations: Stream Discharge Measurements Ending Stage Ending Stage: Total Q: Channel Width: Total Area: Average Velocity: Distance from Datum to Water Surface: Start: End: | | | | | | | | <u> </u> | | |
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| Channel Comp (%): Cobble 20 Gravel / Sand / Sand / Sitt | \$ 7 - \$ 1.1 - x | | 377 F | · : · | | 11 1/2 | Company. | 11 1/1 | | |
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| Time | Station # | Angle Coefficient | Distance (from Initial Point-ft.) | Width | Depth (ft.) | Observation Depth | Revs. | interval Time - In seconds | As Daine | Mean in Ver- | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (cfs |
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| | 711 | Site Location Des | scription: | |
|--|---|--|---|---|
| Site Lat/Long: # 161 (0 | 737321/427060 | 7-14 Rue | les Penes | |
| Date & Time: 10/20/04 | | Facility Name: | | |
| Personnel: RELIAIM | 1 ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' | Permit Number: | - | |
| Current Weather Cond | litions: Evercant | Weather Condition | ons for Past 7 days: 🏽 🔑 | eicast |
| Photo Ids: Upstream | : Down: | stream: | Other: plicks 55 | |
| Used Observed*: | | | · | |
| ☐ Swimming | ☐ Skin Diving | ☐ SCUBA diving | □ Tubing | ☐ Water Skiing |
| ☐ Wind surfing | ☐ Kayaking | ☐ Boating | □ Wading | ☐ Rafting |
| E Hunting | ☐ Trapping | ☐ Fishing | None of the above | ☐ Other |
| | | | of use, photo-documen | |
| evidence of recreation | | | **, p # | |
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| Surrounding Condition | ons*: (Mark all that c | promote or impede recr | eational uses. Attach pho | |
| unusual items of interest. | | | | tos of evidence or |
| | 1 | | | tos of evidence or |
| □City/county parks | | ☐ MDC conservat | ion X Urban areas | |
| □City/county parks | ☐ Playgrounds | ☐ MDC conservat | ion | Campgrounds |
| ☐ City/county parks ☐ Boating accesses | | | | ☐ Campgrounds |
| ☐ Boating accesses | ☐ Playgrounds | lands | s | ☐ Campgrounds ☐ Stairs/walkway |
| | ☐ Playgrounds ☐ State parks | lands □ National forests | | ☐ Campgrounds ☐ Stairs/walkway |
| ☐ Boating accesses | ☐ Playgrounds ☐ State parks ☐ Fence | lands □ National forests | s | ☐ Campgrounds ☐ Stairs/walkway |
| ☐ Boating accesses ☐ No trespass sign Evidence of Human U | ☐ Playgrounds ☐ State parks ☐ Fence | lands □ National forests | S Z Nature trails Z Other: Tukusku | ☐ Campgrounds ☐ Stairs/walkway |
| ☐ Boating accesses ☐ No trespass sign | ☐ Playgrounds ☐ State parks ☐ Fence Jse*: | lands ☐ National forests ✓ Steep slopes ☐ Dock/platfor | S Z Nature trails Z Other: Tukusku | ☐ Campgrounds ☐ Stairs/walkway le /Huy w unthus |
| ☐ Boating accesses ☐ No trespass sign Evidence of Human U | ☐ Playgrounds ☐ State parks ☐ Fence Jse*: ☐ Foot | lands ☐ National forests ✓ Steep slopes ☐ Dock/platfor | S ☐ Nature trails S Other: Tukucku Tm ☐ Livestock Watering | ☐ Campgrounds ☐ Stairs/walkway le /Huy w unthus |
| ☐ Boating accesses ☐ No trespass sign Evidence of Human U | ☐ Playgrounds ☐ State parks ☐ Fence Jse*: ☐ Foot ☐ paths/print | lands ☐ National forests ✓ Steep slopes ☐ Dock/platfor | S ☐ Nature trails S Other: Tukucku Tm ☐ Livestock Watering | ☐ Campgrounds ☐ Stairs/walkway le /Huy io unthing |
| ☐ Boating accesses ☐ No trespass sign Evidence of Human U | ☐ Playgrounds ☐ State parks ☐ Fence Jse*: ☐ Foot paths/print ☐ Camping Signs Camping Signs | lands ☐ National forests ✓ Steep slopes ☐ Dock/platfor | S Nature trails S Other: Tukwico Tm | ☐ Campgrounds ☐ Stairs/walkway le /Huy io unthing |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

| ∃ Riffle | Width(ft) | Length(ft) | Ave. Depth(ft) | Max. | Depth(ft) |
|--|---------------------|-------------------------|------------------------------|------------|----------------|
| Run | Width(ft) 45 | | שט Ave. Depth(ft) | /, 5 Max. | Depth(ft) /. 9 |
| Pool | Width(ft) | Length(ft) | Ave. Depth(ft) | Max. | Depth(ft) |
|] Flow | Present? Y | es No | Estimated (ft³/s | sec): O. a | <u> </u> |
| Downstrea: | m View Physical D | imensions: | | | |
| Riffle | Width(ft) | Length(ft) | Ave. Depth(ft) | Max | Depth(ft) |
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| Pool * 7 |) Width(ft) | Length(ft) | Ave. Depth(ft) | Max. | Depth(ft) |
| Flow | Present? (Y | es No | Estimated (ft ³ / | sec): 0. 2 | <u>-</u> |
| Water Cha | racteristics*: (Mar | - k all that annly \ | - | | |
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| Odor: Color: | ☐ Sewage ②★Clear | ☐ Musky ☐ Green | Ø K Gray | ☐ Milky | [] Other |
| Odor: Iolor: Bottom | ☐ Sewage | ☐ Musky | ØKGray ØKFine | + · · · · | - |
| Odor: Color: Bottom Deposit: Surface Deposit: | ☐ Sewage ②★Clear | ☐ Musky ☐ Green | Ø K Gray | ☐ Milky | [] Other |

Stream Morphology & Discharge Measurements

| Start Time: | | | | | End Time: | | | | | | |
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| Measured by: | Bu INN | Air T | етр: | 515 | | We. | ather Cond: | Outen. | 4 | | |
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| LDB Angle: | | | | | Secchi (ft) | | | | | | |
| LDB Angle: | | RDB Angle: _ | | _ | Secon (it) | | _ 1urt | oidity (NTU): | , | | |
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| Channel Comp (%): | | <u> 30 </u> | | | | | | | | | |
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| Riparian Corridor Density | : Width of Ri | parian Area: | | | | | | | | | |
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| General Observations: | | | | | | | | | | | |
| General Observations. | | | | - | | | | | | | |
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| | | Stream | n Disch | arge Meas | urements | | | | | | |
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| Channel Width: | | Total | | Total Q: Average Velocity: | | | | | | | |
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| Time | Station # | Angle Coefficient | Distance (from Initial Point-ft.) | Width | Depth (ft.) | Observation Depth | Revs. | Interval Time - In seconds | Veid At Point | 3. | Mean in Ver- | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (cf | | |
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| Missouri WBID #: 13 | 711 | | Site Location Description: | | | | | | | |
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| Site Lat/Long: # [7] (| 0737778/42 705 | 73) | T-15 Rweedes fores | | | | | | | |
| Date & Time: 10/20/04 | 1800 | 7 | Facility Name: | | | | | | | |
| Personnel: Nu Pu | | | Permit Number: | | | | | | | |
| Current Weather Cond | itions: overcast | | Weather Conditions for Past 7 days: Overcast | | | | | | | |
| Photo lds: Upstream: | Downs | stre | am: Other: plubs 57-62 | | | | | | | |
| Used Observed*: | | | | | ·· • | | | | | |
| □ Swimming | <u> </u> | SCUBA diving | | Tubing | ☐ Water Skiing | | | | | |
| ☐ Wind surfing | ☐ Kayaking | | | | Wading | ☐ Rafting | | | | |
| ☐ Hunting | Trapping | Ш | Fishing | \mathbf{z} | None of the above | □ Other | | | | |
| Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.) City/county parks Playgrounds In MDC conservation Lurban areas Campgrounds Lands | | | | | | | | | | |
| ☐ Boating accesses | State parks | IJ | National forests | | ☐ Nature trails | ☐ Stairs/walkway | | | | |
| ☐No trespass sign | ☐ Fence | × | Steep slopes | | ☐ Other: | | | | | |
| Evidence of Human Use*: | | | | | | | | | | |
| Roads | □ Foot paths/print | ☐ Foot paths/prints | | n | ☐ Livestock Watering | RVIATV Tracks | | | | |
| □ Rope swings | ☐ Camping Si | tes | s ☐ Fire pit/ring | | □ NPDES Discharge | Г. Fishing Tackle | | | | |
| Sother: Discharge Ivains pipes | | | | | | | | | | |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

| Stream Morp | ohology: View Physical Dime | ensions: | | | |
|--|--|--|--|---|--|
| Riffle | Width(ft) | Length(ft) | Ave. Depth(ft) | Max. D | epth(ft) |
| ☐ Run | Width(ft) | Length(ft) | Ave. Depth(ft) | Max. D | epth(ft) |
| X Pool | Width(ft) AC | / Length(ft) & | ② ' Ave. Depth(ft) | 0,5 Max. D | epth(ft) / , O |
| □ Flow | | es No | Estimated (ft³/ | sec): | |
| Downstrea | ım View Physica <u>l</u> D | imensions: | <u> </u> | | |
| Riffle | Width(ft) 20 | Length(ft) | 25 Ave. Depth(ft) | D. 3 Max. D | epth(ft) 0.4 |
| Run | Width(ft) | Length(ft) | Ave. Depth(ft) | Max. D | epth(ft) |
| □ Pool | Width(ft) | Length(ft) | Ave. Depth(ft) | Max. D | epth(ft) |
| ☐ Flow | Present? | es) No | Estimated (ft ³) | sec): O . S | 5 |
| 20 %Cob | *: (These values sho ble GO %G egetation*: (note a on substrat, g | ravel 多の %S mount of vegetat | and%Silt | | nt site) |
| | aracteristics*: (Mar | | | on party book | |
| Odor: | ☐ Sewage | ☐ Musky | Li Chemical | ✓ None | ☐ Other |
| Color: | ☐ X -Clear | ☐ Green | X-Gray | □ Milky | ☐ Other |
| Bottom Deposit: | ☐ Sludge | □ Solids | K Fine sediments | □ None | □ Other |
| Surface Deposit: | □ Oil | □ Scum | □ Foam | X.None | ☐ Other |
| *This informa more compre influence a de effect anothe !, the unders | hensive understandi ecision on the recrea rruse. | d solely for removang of water conditition use analysis bu | of whole body cont ons. Consequently, t it may point to cond | act recreation but i his information is itions that need fu | ews) to this form. rather is to provide a not intended to directly ther analysis or that reported on this UAA |
| | _ | | te: 10/20/0 | 4 | |
| Organizatio | Nex Wart | tu Resources | osition: <u>Enviro</u> | nmental G | recialist |

Appendix A River des Peres Site Photographs

Site #15. Upstream View



Site #15. Downstream View



Site #16 - Photos Unavailable

Site #17. Upstream View



Site #17. Downstream View



Stream Morphology & Discharge Measurements

Date/Time: Site/Transect ID Number: 15 // // End Time: Start Time: / 6.3.3 Weather Cond: Measured by: 147 / Air Temp: 200 Air Temp: Stream Morphology Between Transects Length of Run Length of Pools Length of Riffles Start GPS Start GPS End GPS# Start GPS # End GPS # End GPS# 5 6 7 8 10 11 12 13 14 15 Stream Morphology At Transect RD8 Angle: ____ Secchi (ft) ____ Turbidity (NTU): ____ LDB Angle: Channel Comp (%): Cobble Other

Bank Compostion ___ Width of Riparian Area: Riparian Corridor Density: Compostion of Riparian Vegitation: General Observations: (1) Hold Medit 1981. 170 way pt (0737795/4270535) whom Stream Discharge Measurements Ending Stage: Total Q: Beginning Stage Average Velocity: Channel Width: Total Area: End: Distance from Datum to Water Surface: Start: Agua Calc Transect #: Meas, type: Price AA Pygmy Data Coli. Type: Aqua Calc Sheet

| | | | | | Stre | | | | | | | | |
|-------------|-------------|----------------------|-----------------------------------|--|----------------|-------------------|----------------|-------------------------------|--------------|--|--|--|--|
| Time | Station # | Angle Coefficient | Distance (from initial Point-ft.) | Width | Depth (ft.) | Observation Depth | Revs. | Interval Time - in seconds | Velo | Mean in Ver- | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (cfs |
| | 1 (EOW) | | 0 | | 1 7 7 | 0 | 0 | 0 | 0 | 0 | | | |
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Data Sheet B – Site Characterization

(A separate data sheet must be completed for each site)

| Missouri WBID #: | 710 | 1 | Site Location Description: | | | | | | | | |
|---|-----------------------|-----|---|---|-------------------------|------------------|--|--|--|--|--|
| Site Lat/Long: # 172 | | 2) | T-16 Rues des Peres | | | | | | | | |
| Date & Time: 10/20/0 | 1815 | 1 | Facility Name: | | | | | | | | |
| Personnel: Paul um | | | Permit Number: | | | | | | | | |
| Current Weather Cond | itions: Overcast | , 1 | Weather Conditions for Past 7 days: Over Cast | | | | | | | | |
| Photo Ids: Upstream | : Downs | | | | Other: | | | | | | |
| Used Observed*: | | | | | | | | | | | |
| ☐ Swimming | ☐ Skin Diving | _ S | CUBA diving | | Tubing | ☐ Water Skiing | | | | | |
| ☐ Wind surfing | ☐ Kayaking | | Boating | | Wading | ☐ Rafting | | | | | |
| L] Hunting | ☐ Trapping | □F | ishing | X | None of the above | | | | | | |
| Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.) □ City/county parks □ Playgrounds □ MDC conservation ☑ Urban areas □ Campgrounds lands | | | | | | | | | | | |
| ☐ Boating accesses | ☐ State parks | | National forests | | ☐ Nature trails | ☐ Stairs/walkway | | | | | |
| □ No trespass sign | ☐ Fence | - | Steep slopes | | Other: Ind | estrial | | | | | |
| Evidence of Human Use*: | | | | | | | | | | | |
| XRoads | □ Foot paths/print | \$ | ☐ Dock/platform | 7 | ☐ Livestock Watering | □ RV/ATV Tracks | | | | | |
| ☐ Rope swings | □ Camping Si | tes | ☐ Fire pit/ring | | © NPDES Discharge | ☐ Fishing Tackle | | | | | |
| Discharge Dipes | | | | | | | | | | | |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

| Z Riffle | View Physical Width(ft) | 121 | Length(ft) | 20' Ave. Depth(ft) | 0.4 | Max. De | pth(ft) | <u> </u> | 62 |
|---|--|---|---|--|---|--|---|---------------------------------------|-----------------------------------|
| Run | Width(ft) | | Length(ft) | Ave. Depth(ft) | • | Max. De | pth(ft) | | |
| Pool | Width(ft) | | Length(ft) | Ave. Depth(ft) | - | Max. De | pth(ft) | | |
| F low | Present? | Yes | No | Estimated (ft³/ | sec): | 0.55 | - | | |
| Downstre | am View Phys | ical Dime | ensions: | | | | | | |
| Riffle | Width(ft) | | Length(ft) | Ave. Depth(ft <u>)</u> | | Max. De | pth(ft) | | |
| X Run _ | Width(ft) | 50 | Length(ft) | <u> うのひ</u> Ave Depth(ft) | 0,5 | Max. De | pth(ft) | <u> </u> | <u>7</u> |
|] Pool | Width(ft) | | Length(ft) | Ave. Depth(ft) | | Max. De | pth(ft) | | <u> </u> |
| S. Flow | Present? | Ves | No | Estimated (ft³/ | sec): | | 1,0 | | |
| | | _ | | ation or algal growth | | | | | |
| Smachweed Water Ch | on gravel to | (Mark a | <i>llous along</i> I that apply.) | bunks, NO al | ine M | Subch. | :Le | | |
| wachweed Water Ch Odor: | aracteristics* | (Mark al | llous along that apply.) Musky | L: Chemical | Non | Subch, | <i>≥Æ</i>] Othe | | |
| Smachweed Water Ch Odor: Color: | aracteristics* | (Mark al | llovs along that apply.) Musky Green | L: Chemical | X Non | Subjects. | Othe | er | |
| Swartweed Water Ch Odor: Color: Bottom | aracteristics* | (Mark al | llous along that apply.) Musky | L: Chemical | Non | Subjects | Othe | er | |
| machweed | aracteristics* | (Mark al | llovs along that apply.) Musky Green | L: Chemical K Gray K Fine | X Non | Subch. | Othe | er er | |
| Water Ch Odor: Color: Bottom Deposit: Surface Deposit: | aracteristics* Sewa Clear Sludg | (Mark alge | that apply.) Musky Green Solids | L: Chemical Chemical Chemica | Non- | e [y e e | Other | er er er | rm. |
| Water Ch Odor: Color: Bottom Deposit: Surface Deposit: omments: This informatione compressione compressione and | aracteristics* Sewa Clear Sludg Oil Please attack attion is not to be the control on the c | (Mark al ge | that apply.) Musky Green Solids Scum Scum | L: Chemical Gray Fine sediments Foam | Non- Non- Non- Non- Non- Non- Non- Non- | e Cy continued the state of the | Other of intended | er er his fo o prov | ride a • dire |
| Water Ch Odor: Color: Bottom Deposit: Surface Deposit: Comments: This informatione compressione compressione and free and free and free at a tasheet is | aracteristics* Sewa Clear Clear Coil Please attaches attaches under lecision on the ler use. signed, hereby strue and acc | (Mark alge ge ge addition be used so standing a recreation y affirm to urate. | that apply.) that apply.) Musky Green Solids Scum Scum Ithat apply.) Green Ithat apply.) Green Green Solids Scum Scum Ithat apply.) Green L: Chemical Gray Fine sediments Foam ts (including informations. Consequently, to | Non- Non- Non- Non- Non- Non- Non- Non- | e | Other of intended on the content of | his fo o prov ded to ysis or | ride a dire r that iis U |

Stream Morphology & Discharge Measurements

End Time: 1845 Start Time: 1245 Measured by: FR/NR Air Temp; UD°5 Weather Cond: 🛷 👵 Stream Morphology Between Transects Length of Pools Length of Run Length of Riffles Start GPS Start GPS End GPS # ft. Start GPS # End GPS # ft. # End GPS # 2 5 6 7 8 9 10 11 12 13 14 15 Stream Morphology At Transect LDB Angle; ____ RDB Angle: Secchi (ft) ______ Turbidity (NTU): 3,22 Cobbie <u>40</u> Gravel <u>30</u> Sand <u>30</u> Silt -Channel Comp (%): Bank Compostion flat ty 104 Riparian Corridor Density: Width of Riparian Area: Compostion of Riparian Vegitation: General Observations: Stream Discharge Measurements Ending Stage: Beginning Stage Total Q: Average Velocity: Total Area: Channel Width:

Start:

Data Coll. Type: Aqua Calc Sheet

Distance from Datum to Water Surface:

Meas, type: Price AA Pygmy

Aqua Calc Transect #:

| | | | | | Stre | am Dis | scha | rge Meas | uremen | ts | | | | _ |
|---------------|--|--|--|---------------|--------------|-------------------|----------|-------------------------------|------------------|----------|---------------------------------|---------------------------------------|--|---------------------------|
| Time | Station # | Angle Coefficient | Distance (from initial Point-ft.) | Width | Depth (ft.) | Observation Depth | Revs. | interval Time - in seconds | Velo At Point | N | y (f/s) Mean in Ver- ical | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (cfs |
| | 1 (EOW) | | 0 | 2.5 | 0.5 | 0 | O | 0 | | 0 | 0 | | <u> </u> | |
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| Missouri WBID #: | 1710 | 2 | Site Location Descr | iption: | |
|---|--|--------------------------------|--|--|---|
| Site Lat/Long: 073 78 | | \neg | | 17 - Ri | ver as feves |
| Date & Time: 6/21/0 | | F | acility Name: | | |
| Personnel: NM/C. | Ĺ | F | Permit Number: | | <u>.</u> |
| Current Weather Conc | litions: (loudy | 1 | Weather Conditions | for Past 7 days: (| loady |
| Photo lds: Upstream | : Down | | | Other: | J |
| | 96-009 | | - | | |
| Used Observed*: | , | | ··· | | |
| Li Swimming | ☐ Skin Diving | □ S | CUBA diving | Tubing | ☐ Water Skiing |
| ☐ Wind surfing | □ Kayaking | □В | oating |) Wading | ☐ Rafting |
| ☐ Hunting | ☐ Trapping | | | None of the above | |
| Describe: (include num | ber of individuals | recre | ating, frequency of | use, photo-docume | ntation of |
| evidence of recreation | al uses, etc. | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| C | - | | | | |
| Surrounding Condition unusual items of interest.) | ons": (Mark all that p | momo | ote or impede recreat | ional uses. Attach pho | atos of evidence or |
| · | | | | | tos of evidence of |
| ☐ City/county parks | | $\top =$ | | | |
| : | ☐ Playgrounds | | MDC conservation | X Urban areas | Campgrounds |
| | | ļ <u> </u> | lands | | ☐ Campgrounds |
| ☐ Boating accesses | ☐ State parks | | lands National forests | ☐ Nature trails | ☐ Campgrounds ☐ Stairs/walkway |
| ☐ Boating accesses ☐ No trespass sign | | ļ <u> </u> | lands | | ☐ Campgrounds ☐ Stairs/walkway |
| | ☐ State parks | | lands National forests | ☐ Nature trails | ☐ Campgrounds ☐ Stairs/walkway |
| □ No trespass sign | ☐ State parks ☑ Fence | | lands National forests | ☐ Nature trails | ☐ Campgrounds ☐ Stairs/walkway |
| ☐ No trespass sign Evidence of Human U | ☐ State parks ☑ Fence | <u> </u> <u> </u> <u> </u> | lands National forests Steep slopes | □ Nature trails ☑ Other: Reads | ☐ Campgrounds ☐ Stairs/walkway ──────────────────────────────────── |
| ☐ No trespass sign Evidence of Human U | State parks Signature | | lands National forests Steep slopes | ☐ Nature trails ☑ Other: Roads | ☐ Campgrounds ☐ Stairs/walkway both Sides ☐ RV/ATV Tracks |
| ☐ No trespass sign Evidence of Human U ☐ Roads | State parks Signature | | National forests Steep slopes □ Dock/platform | ☐ Nature trails ☐ Other: Reeds ☐ Livestock | ☐ Campgrounds ☐ Stairs/walkway ──────────────────────────────────── |
| □ No trespass sign Evidence of Human U ☐ Roads | State parks Signature | | National forests Steep slopes □ Dock/platform | ☐ Nature trails ☑ Other: Reads ☐ Livestock Watering | ☐ Campgrounds ☐ Stairs/walkway both Sides ☐ RV/ATV Tracks |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

| Stream Morpho Upstream Vie | logy: w Physical Dimens | ions: | | | |
|--|---|---|---|--|--|
| | Vidth(ft) | Length(ft) | Ave. Depth(ft) | Max. [| Depth(ft) |
| | Vidth(ft) | Length(ft) | Ave. Depth(ft) | Max. D | Depth(ft) |
| | Vidth(ft) 60 | Length(ft) /60 | Ave. Depth(ft) | C.5 Max. D | Depth(ft) 1,5 |
| | resent? (Yes | | Estimated (ft³/s | ec): 69/0 | |
| Downstream ' | View Physical Dim | · | | | |
| X Riffle V | Vidth(ft) 75 | Length(ft) <u>5</u> 2 | | | Depth(ft) / 8 |
| ☐ Run V | Vidth(ft) | Length(ft) | Ave. Depth(ft) | | Depth(ft) |
| X Pool V | Vidth(ft) 40 | Length(ft) /C.C | | | Depth(ft) 1.5 |
| Flow P | resent? Yes |) No | Estimated (ft³/s | (ec): Ø /0 | |
| 80 %Cobble Aquatic Vege | hese values should 20 %Grave tation*: (note amo | el <u> </u> | | ∽ %Mud/Cla at the assessment | |
| | teristics*: (Mark a | 2 | | | |
| Odor: | ☐ Sewage | □ Musky | ☐ Chemical | 🔏 None | ☐ Other |
| Color: | X ; Clear | ∭X Green | □ Gray | □ Milky | ☐ Other |
| Bottom Deposit: | ☐ Sludge | □ Solids | Sediments | □ None | Other |
| Surface Deposit: | □ Oil | □ Scum | □ Foam | ∕⊠ None | ☐ Other |
| *This information more comprehen influence a decisi effect another us I, the undersign | n is not to be used so sive understanding on on the recreation e. ed, hereby affirm t | olely for removal of water condition use analysis but | of whole body contains. Consequently, the may point to condit | ct recreation but his information is ions that need fu | iews) to this form. rather is to provide a not intended to directly inther analysis or that reported on this UAA |
| Signed: / A2 | e and accurates | he sy Date | : 10/21/09 | T | |
| Organization: | | | ition: | , | |

Appendix A River des Peres Site Photographs

Site #15. Upstream View



Site #15. Downstream View



Site #16 - Photos Unavailable

Site #17. Upstream View



Site #17. Downstream View



Stream Morphology & Discharge Measurements

Project Name/Number: MSD UAA Date/Time: 10/21/64 14 35
Site/Transect ID Number: 17 - River Des Porcis Start Time: <u>/435</u> Air Temp: 55°F Weather Cond: Clouds Measured by: NM/CL Stream Morphology Between Transects S. 4. 181 GPS Length of Pools Length of Run Length of Riffles Start GPS Start GPS End GPS# Start GPS # End GPS # fŧ. End GPS # 3 5 6 7 8 9 10 11 12 13 14 15 Tuken @ ROB Stream Morphology At Transect

| LDB Angle: <u>/4)</u> (分 火 ル | 16/ <i>E</i> " 18.6151) | RDB Angle: <u>99%</u> © '93 | / / | | ni (ft) | т | urbidity (NTU): | _ _ |
|---|----------------------------|-------------------------------------|---------------|----------|-------------|---------------------------------------|--|----------------|
| Channel Comp (%): | Comble | <u>\$0</u> (| Gravel 2 (| | Sand | s | ilt | · · · |
| | Other | | | | | | | |
| Bank Compostion(| nerete / R. | prap | | | | | | |
| Riparian Corridor Density: | | parian Area: n of Riparian Vegit | ation: | | · | · · · · · · · · · · · · · · · · · · · | | |
| General Observations: | | | | | | - | ······································ | |
| | | | | | | . | | <u>-</u> |
| | | Stream D | ischarge M | leasurem | nents | | | |
| Beginning Stage | | Ending Stage: | : | | | Total (| a: | |
| Channel Width: | | Total Area: | ÷ | | | Average Velocit | y: | |
| Distance from Dat | tum to Water Surfa | ice: Start: | : | | | En | | |
| Meas, type: | Price AA Pygmy | Data Coll. Type: | : Aqua Calc S | heet | Aqua | Calc Transect# | | |

| | | | | ·- | Strea | am Di | scha | rge Mea | SL | ıremen | ts | · | | | |
|-------|--|----------------------|-----------------------------------|--|--------------|--|----------|-------------------------------|---------|--------------|-----|-----------------------|--|--|--|
| | ! | | Τ | | 1 - 1 | | Ī | | Ţ | Vel | oci | ity (f/s) | 2 | | |
| Time | Station # | Angle Coefficient | Distance (from initial Point-ft.) | Width | Depth (ft.) | Observation Depth | Revs. | Interval Time - In seconds | / | At Point | | Mean in Ver- tical | Adjusted for Kor. Angle | Section Area (ft.²) | Section Discharge (cf |
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| | | | 21 | | 0.2 | ļ | | | 4 | | | | | <u> </u> | |
| | | | 27 | | . 0.5 | | | | 4 | | | | | | <u> </u> |
| | | _ | 33 | | 0.55 | _ | Щ | | 4 | | | | | ļ <u> </u> | |
| | | | ₹; | | 0.62 | | | 1 | + | | | | | + | |
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| | | +- | 81 | | 0.85 | | | | + | | | | | | – – – |
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| | | ╁┈╴ | 92 | | 0.5 | | | | 1 | | | | | | <u> </u> |
| | | | 93 | | 0.3 | | | | 7 | ··· · | | | | | - |
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| Missouri WBID #: | 1710 1 | | Site Location Desc | cript | tion: | |
|-----------------------------|---------------------------------|-------------|----------------------|-------|---------------------------------------|--------------------|
| Site Lat/Long. 10/24 | ···· | _ | z River Das | • | | |
| Date & Time: 75.0 | | | Facility Name: | 1+ | V - 310 | · · · |
| Personnel: Nm/co | | | Permit Number: | | | |
| Current Weather Cond | itions: (loudy | | Weather Condition | ns f | or Past 7 days: 🕜 | Vercast |
| Photo lds: Upstream | : /c/ Down | | | | Other: Builds - | |
| Used Observed*: | | | | | | |
| ☐ Swimming | ☐ Skin Diving | | CUBA diving | Γ. | Tubing | ☐ Water Skiing |
| ☐ Wind surfing | ☐ Kayaking | | | | Wading | El Rafting |
| ☐ Hunting | ☐ Trapping | | | | None of the above | |
| Describe: (include num | | | | | | |
| evidence of recreation. | al uses, etc. | | | | , | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Surrounding Condition | o ns* : (Mark all that p | rom | ote or impede recrea | atio | nal uses. Attach pho | tos of evidence or |
| unusual items of interest.) | | | | | ··· | • |
| ☐ City/county parks | ☐ Playgrounds | | MDC conservatio | on | 又 Urban areas | Campgrounds |
| | | <u> </u> | lands | | · · · · · · · · · · · · · · · · · · · | |
| ☐ Boating accesses | ☐ State parks | | National forests | | ☐ Nature trails | ☐ Stairs/walkway |
| _ ☐ No trespass sign | ⊠ Fence | J X. | Steep slopes | | □ Other: | |
| Evidence of Human U | se*: | | | | | |
| □Roads | □ Foot | | ☐ Dock/platform | ηŢ | ☐ Livestock | ☐ RV/ATV Tracks |
| | paths/print | s | | | Watering | |
| ☐ Rope swings | C Camping S | | ☐ Fire pit/ring | | ☐ NPDES | ☐ Fishing Tackle |
| | | | ; | | Discharge | Tishing rackle |
| ☐ Other: | | | <u> </u> | | <u> </u> | |
| | | | | | | |
| | | | · | | ····· | · |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

| Stream Morpho Upstream Vie | logy: w Physical Dimens | sions: | | | |
|----------------------------------|---|---|---|---|---|
| X Riffle V | Vidth(ft) ルゼ | Length(ft) 2cさ | Ave. Depth(ft) | 0.4 Max. D | Depth(ft) / O |
| □ Run V | Width(ft) | Length(ft) | Ave. Depth(ft) | Max. D | epth(ft) |
| □ Pool V | Vidth(ft) | Length(ft) | Ave. Depth(ft) | Max. D | epth(ft) |
| Ø Flow P | resent? (Fes | No | Estimated (ft³/s | (ec): | |
| | View Physical Dim | | | | |
| | Vidth(ft) | Length(ft) 女で | | | Depth(ft) C.S |
| | Width(ft) | Length(ft) | Ave. Depth(ft) | | epth(ft) |
| ☐ Pool \ | Width(ft) | Length(ft) | Ave. Depth(ft) | | Pepth(ft) |
| € Flow P | resent? (Ves | No No | Estimated (ft³/s | ec): (a) /C | 2 |
| Substrate*: (1 | hese values shoul | d add up to 100% | 6) | | |
| 8८ %Cobble | ادین %Grav | el 🔑 %San | nd %Silt | د %Mud/Cla | y %Bedrock |
| | | enthic alga | | at the assessme | ent site) |
| Odor: | teristics*: (Mark a | | G G : 1 | 7.0° b.1 | II. Other |
| Color: | ☐ Sewage | | ☐ Chemical | X None | U Other |
| Bottom | ⊠ Clear | | ☐ Gray | ☐ Milky | ☐ Other |
| Deposit: | Ì⊡ Sludge | | □ Fine sediments | X (None | ☐ Other |
| Surface Deposit: | D Oil | □ Scum | □ Foam | ₹ None | □ Other |
| *This information more comprehen | n is not to be used so sive understanding ion on the recreation | olely for removal o of water condition | f whole body contacts. Consequently, th | ct recreation but his information is | ews) to this form. rather is to provide a not intended to directly rther analysis or that |
| | ed, hereby affirm ie and accurate. | to the best of my | / / | all information | reported on this UAA |
| Organization:_ | | Posi | tion: | | |

Appendix A River des Peres Site Photographs

Site #18. Upstream View



Site #18. Downstream View



Site #19. Upstream View



Site #19. Downstream View



Stream Morphology & Discharge Measurements

Project Name/Number: <u>MSD~DAA</u>

Date/Time: <u>10/21/04</u> 15:00

Site/Transect ID Number: 18 - Reser Des 12 ves

| Measured by: | | Start Tir | me: | 5.00 | | | | | | 15:15 | | |
|--|--------------|-------------|--|----------------|--|-------------|-------------|--------------|-------------|---------------|-----------------|---------------------------------------|
| Length of Pools | | | | | | | | | | ather Cond: | Cloud | , Y |
| # ft. Start GPS # ft. Start GPS # ft. # End GP | GPS P | nt - | 182 | | Stream N | torpholo | gy Betwe | en Transe | ects | | | |
| # # # End GPS # ft. Start GPS # ft. # End GPS # 1 | l | | | Length of Poc | ls | <u> </u> | ength of Ru | ฏ | L | ength of Riff | les | |
| 1 | | | | | | | | | | Start GPS | 1 | 7 |
| 3 | ļ - | # | ft. | # | End GPS # | ft. | Start GPS # | End GPS # | ft. | # | End GPS # | 1 |
| Stream Morphology At Transect LDB Angle: Stream Morphology At Transect Stream Morphology At Transect LDB Angle: Secchi (ft) Turbidity (NTU): | | 1 | | | | | | | | | | _ |
| A | _ | 2 | | | | | | <u> </u> | | | | 1 |
| Stream Morphology At Transect Turbidity (NTU): | <u> </u> | 3 | | | | | | | | | | |
| Stream Morphology At Transect Turbidity (NTU): | | 4 | | | | | | | | • | | |
| Stream Morphology At Transect Turbidity (NTU): | I | 5 | | | | | | | | | | |
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| Stream Morphology At Transect Channel Comp (%): Cobble Cobpect Composition of Riparian Area: Composition of Riparian Vegitation: Composition of Riparian Vegitation: Channel Comp (%): Stream Discharge Measurements Channel Composition Continued to the composition of Riparian Area: Composition of Riparian Area: Composition of Riparian Vegitation: | | 7 | | | | | | | • | | |] |
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| 11 | | 9 | | | | | | | | | | 1 |
| 12 13 14 15 Stream Morphology At Transect | | 10 | | | | | | | | | | 1 |
| Stream Morphology At Transect LDB Angle: Secchi (ft) Turbidity (NTU): Channel Comp (%): Cobble Gravel 20 Sand Silt Other Bank Compostion Cricvete Ryscip Riparian Corridor Density: Width of Riparian Area: Silt Compostion of Riparian Vegitation: Stream Discharge Measurements Ending Stage Ending Stage: Total Q: Channel Width: Total Area: Average Velocity: Distance from Datum to Water Surface: Start: End: | | 11 | | | | | | | | | | 1 |
| Stream Morphology At Transect LDB Angle: RDB Angle: Secchi (ft) Turbidity (NTU): Channel Comp (%): Cobble Cother Bank Composition Crick + Light Composition of Riparian Area: LDB - O | | 12 | | | | | | | | | | 1 |
| Stream Morphology At Transect LDB Angle: RDB Angle: Secchi (ft) Turbidity (NTU): Channel Comp (%): Cobble | | 13 | | | | ••- | | | | † | | 1 |
| Stream Morphology At Transect LDB Angle: RDB Angle: Secchi (ft) Turbidity (NTU): Channel Comp (%): Cobble | | 14 | | | | | | | | <u> </u> | | i |
| Channel Comp (%): Cobble Gravel 20 Sand Silt Other Bank Compostion Concrete Lance Compostion of Riparian Area: Compostion of Riparian Vegitation: Stream Discharge Measurements Beginning Stage Ending Stage: Channel Width: Total Area: Distance from Datum to Water Surface: Sand Silt Turbidity (NTU): Turbidity (NTU): Turbidity (NTU): Turbidity (NTU): Turbidity (NTU): Total Q: Average Velocity: End: | | | | <u> </u> | | | | - | | | | - |
| Channel Comp (%): Cobble Gravel 20 Sand Silt Other Bank Compostion Concrete Lance Compostion of Riparian Area: Compostion of Riparian Vegitation: Stream Discharge Measurements Beginning Stage Ending Stage: Channel Width: Total Area: Distance from Datum to Water Surface: Sand Silt Turbidity (NTU): Turbidity (NTU): Turbidity (NTU): Turbidity (NTU): Turbidity (NTU): Total Q: Average Velocity: End: | | | | - 1 | Strea | m Morni | anlogy At | Transact | | . , | | |
| Channel Comp (%): Cobble SO Gravel 2-O Sand Silt Other Bank Compostion Crick Larce Riparian Corridor Density: Width of Riparian Area: Some Stream Discharge Measurements Beginning Stage Ending Stage: Total Q: Average Velocity: Distance from Datum to Water Surface: Start: End: | | | _ | | | | | | | | | |
| Other Bank Compostion Crick Riving Riparian Corridor Density: Width of Riparian Area: | LUB | Angle: | | _ ' | KDB Angle: _ | | | Secchi (ft) | | _ Turb | sidity (NTU): | |
| Other Bank Compostion Crick Riving Riparian Corridor Density: Width of Riparian Area: | Channel Cor | mp (%): | | Cobble | 80 | Gravel | 20 | Sand | ····, | Silt | | |
| Riparian Corridor Density: Width of Riparian Area: Discharge Measurements Beginning Stage Ending Stage: Total Q: Channel Width: Total Area: Average Velocity: Distance from Datum to Water Surface: Start: End: | | | | | | | | | | | | • |
| Riparian Corridor Density: Width of Riparian Area: | Bank Comp | ostion (| Cucy | | MICE 10 | | | " | - " | <u> </u> | | |
| General Observations: Stream Discharge Measurements Beginning Stage Ending Stage: Total Q: Channel Width: Total Area: Average Velocity: Distance from Datum to Water Surface: Start: End: | | | | | *** ********************************* | | | | | | | |
| General Observations: Stream Discharge Measurements Beginning Stage Ending Stage: Total Q: Channel Width: Total Area: Average Velocity: Distance from Datum to Water Surface: Start: End: | Riparîan Cor | rridor Den | sitv: | Width of Ric | arian Area: | نعم | 1 DD | - 201 | 0.8/24 | هدر سر | | /D D 0 |
| General Observations: Stream Discharge Measurements Beginning Stage Ending Stage: Total Q: Channel Width: Total Area: Average Velocity: Distance from Datum to Water Surface: Start: End: | | | | | | | | , | | <u> </u> | - () | KDD - () |
| Stream Discharge Measurements Beginning Stage Ending Stage: Total Q: Channel Width: Total Area: Average Velocity: Distance from Datum to Water Surface: Start: End: | | | | Compostio | i of Kiparian | vegitation: | | | | | | - · |
| Stream Discharge Measurements Beginning Stage Ending Stage: Total Q: Channel Width: Total Area: Average Velocity: Distance from Datum to Water Surface: Start: End: | General Ob | servation | <u>. </u> | | | · | - | | | <u>.</u> | | |
| Beginning Stage Ending Stage: Total Q: Channel Width: Total Area: Average Velocity: Distance from Datum to Water Surface: Start: End: | | | | | | | | | · | | | · · · · · · · · · · · · · · · · · · · |
| Beginning Stage Ending Stage: Total Q: Channel Width: Total Area: Average Velocity: Distance from Datum to Water Surface: Start: End: | | | - | | | | | | | | | |
| Beginning Stage Ending Stage: Total Q: Channel Width: Total Area: Average Velocity: Distance from Datum to Water Surface: Start: End: | | | | | Strea | m Discha | rge Meas | urements | - | | | |
| Channel Width: Total Area: Average Velocity: Distance from Datum to Water Surface: Start: End: | Beainnir | ng Stage | | | | | | a. oments | | Total D- | | |
| Distance from Datum to Water Surface: Start: End: | | | th: | | | | | | Avam | _ | | |
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| Time | Station# | Angle Coefficient | Distance (from Initial Point-ft.) | Width | Depth (ft.) | Observation Depth | Revs. | Interval Time - in seconds | At Po | | Mean in Ver- | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (cf |
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| | | | 37 | | 0.23 | <u> </u> | | | | | | | <u> </u> | |
| | | Щ | 39 | | 0.2 | <u> </u> | | | 1 | | | | | |
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| | <u> </u> | | 4 7 | | 0.4 | | | | _ | | | | | |
| | | | 52 | | 6.6 | | | | _ | | | <u> </u> | | |
| | | _ | 57 | | 0.65 | | lacksquare | | - | | | ļ | <u> </u> | |
| | ļ | | 62 | | 0.5 | | | | _ | | | | | |
| | | | 67 | | 0.5 | ļ | L | | 1 | | | | | |
| | <u> </u> | ļ | 72 | | 0.5 | | | | _ | | | | | |
| | | | 77 | | 6.3 | | | | _ | | | ļ | ļ | |
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| | | | 57 | | 0.5 | | | | | | ļ | | | |
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| | - | | 112 | | 0.35 | | _ | | ₩ | | | | | |
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| | | 1 | 117 | ļ • | 0.3 | | | _ | | | Sheet Tot | | | <u>L</u> |
| | | | 121 | <u> </u> | <u>0</u> | <u></u> | - | | Sh | eet C | alculated Di | ischarge | : | |
| | dra . | | 731 | | 0 | | | | | A | qua Calc D | scharge | <u> </u> | |
| lemar | KS: | | 136 | | C:-3 | | | | | | . | | | |
| | | | 139 | [<u> </u> | 6.3 | | | | ••• | | | | · - | |
| | | } | <i>14</i> J | | C | | | | | | <u> </u> | | | |

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| بالماملات | 710 , | ! S | ite Location Descri | ption: | |
|---|---|------------------|---|---|--|
| Site Lat/Long: #/: | | | ireides Peves T | | |
| | 1/04 1520 | | acility Name: | | |
| Personnel: Nm/ | CL. | | ermit Number: | | · · · · · · · · · · · · · · · · · · · |
| Current Weather Conc | litions: Claudy | V | Veather Conditions | for Past 7 days: | |
| Photo Ids: Upstream | | | m: 107 | | 106 |
| pic. #5 - 9-12 | | | | | |
| Used Observed*: | | | | | |
| ☐ Swimming | ☐ Skin Diving | E SC | CUBA diving [| Tubing | ☐ Water Skiing |
| ☐ Wind surfing | ☐ Kayaking | ΞВα | oating 🗆 | Wading | ☐ Rafting |
| ☐ Hunting | ☐ Trapping | | | None of the above | |
| Describe: (include num | ber of individuals | recrea | ating, frequency of | use, photo-docume | ntation of |
| evidence of recreation | al uses, etc. | | • | • | |
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| Surrounding Condition | ons*: (Mark all that n | promot | te or impede recreati | onal uses. Attach oho | otor of suidence or |
| Surrounding Condition | ons*: (Mark all that p | promot | te or impede recreati | onal uses. Attach pho | otos of evidence or |
| Surrounding Condition unusual items of interest.) □ City/county parks | ons*: (Mark all that p | Ţ; | te or impede recreati MDC conservation lands | onal uses. Attach pho | otos of evidence or Campgrounds |
| unusual items of interest.) | · · · · · · · · · · · · · · · · · · · | G . | MDC conservation | · | ☐ Campgrounds |
| unusual items of interest.) ☐ City/county parks | □ Playgrounds | G . | MDC conservation lands | ⊠ Urban areas | ☐ Campgrounds |
| unusual items of interest.) □ City/county parks □ Boating accesses | ☐ Playgrounds ☐ State parks ☐ Fence | G | MDC conservation lands National forests | ☑ Urban areas ☐ Nature trails | ☐ Campgrounds |
| unusual items of interest.) □ City/county parks □ Boating accesses □ No trespass sign | ☐ Playgrounds ☐ State parks ☐ Fence | [] X | MDC conservation lands National forests | ☑ Urban areas ☐ Nature trails | ☐ Campgrounds |
| unusual items of interest.) □ City/county parks □ Boating accesses □ No trespass sign Evidence of Human U | ☐ Playgrounds ☐ State parks ☐ Fence | □ □ > | MDC conservation lands National forests Steep slopes | ☐ Urban areas ☐ Nature trails ☐ Other: | ☐ Campgrounds ☐ Stairs/walkway |
| unusual items of interest.) □ City/county parks □ Boating accesses □ No trespass sign Evidence of Human U □ Roads | ☐ Playgrounds ☐ State parks ☐ Fence se*: □ Foot | □ □ > | MDC conservation lands National forests Steep slopes | ☐ Variation of Control of Contro | ☐ Campgrounds ☐ Stairs/walkway ☐ RV/ATV Tracks |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

| Stream Morpho Upstream Vie | logy: w Physical Dimensi | ons: | | | |
|----------------------------------|---|--|---------------------------------------|---------------------------------------|---|
| | Vidth(ft) | Length(ft) | Ave. Depth(ft) | Max. E | epth(ft) |
| □ Run V | Vidth(ft) | Length(ft) | Ave. Depth(ft) | Max. D | epth(ft) |
| ĭ ⊠ Pool V | Vidth(ft) 80 | Length(ft) みちぐ | Ave. Depth(ft)_ | 0,8 Max.D | epth(ft) ルム |
| | resent? (es) | No | Estimated (ft³/se | | |
| Downstream ' | View Physical Dime | nsions: | | | |
| ☐ Riffle V | Vidth(ft) | Length(ft) | Ave. Depth(ft) | | Depth(ft) |
| □ Run V | Width(ft) | Length(ft) | Ave. Depth(ft) | Max. D | epth(ft) |
| XI Pool V | Vidth(ft) 60 | Length(ft)/50 | Ave. Depth(ft) (| S Max. D | Pepth(ft) ルス |
| ⊠ Flow P | resent? (Yes | No | Estimated (ft³/so | ec): / 🛆 | |
| Substrate*: (T | hese values should | | | — %Mud/Cla | y - %Bedrock |
| 30 | etation*: (note amount of the second of the | ic algai | | at the assessme | ent site) |
| Odor: | T | | ☐ Chemical | X None | ☐ Other |
| Color: | 1≸ Clear | | ☐ Gray | □ Milky | ☐ Other |
| Bottom Deposit: | □ Sludge | □ Solids [| Fine sediments | ⊠ None | ☐ Other |
| Surface Deposit: | □ Oil | ⊼ Scum [| □ Foam | ҈ X None | □ Other |
| *This information more comprehen | isive understanding o ion on the recreation | lely for removal of if water condition: | whole body contacts. Consequently, th | t recreation but is information is | ews) to this form. rather is to provide a not intended to directly inther analysis or that |
| datasheet is tru | ed, hereby affirm to the and accurate. Sie to panile MEC Wiley Rose | • | | | reported on this UAA |
| Organization: | MEC Water Res | energes Posit | tion: <u>Environm</u> | ental Specia | 1:51 |

Stream Morphology & Discharge Measurements

Project Name/Number: 175 10 UAA

Date/Time: 10/21/04 /1520

Site/Transect ID Number: 19

| | Start Tir | me: <u>/5</u> | <u> </u> | | | | | | End Time: | 1513 | 5 |
|----------|----------------|---------------------------------------|--|---------------|-------------|--------------|---------------------------------------|---------------------------------------|--|---------------|----|
| | | | | Air T | emp: | 55°F | | We | ather Cond: | Clou | 04 |
| | | | | Stream M | orphol | ogy Betwe | en Transe | cts | | | |
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| | LDB Angle: _ | | _ ' | RDB Angle: | | _ | Secchi (ft) _ | ··· | _ Turt | oidity (NTU): | |
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| Channe | l Comp (%): | | Cobble | 80 | Grave | 120 | Sand | | Silt | | |
| | | | Other - | | | | | | _ `. | | |
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| Riparian | Corridor Den | sity: | Width of Rip | arian Area: | 5.0 | <u> </u> | | | | | i |
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| Bea | inning Stage | | | | | | | | Total Q: | | |
| • | Channel Wid | th: | | Total A | | | | Δυρτοι | ge Velocity: | | |
| | | | o Water Surfa | | itart: | | | | e velocity End: | | |
| | | | e AA Pygmy | | | a Calc Sheet | Δ. | rua Calc T | ransect #: | | |

| | | | | | Stre | am Di | scna | rge Meas | uremei | 113 | 781.5 | | | |
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| Time | Station # | Angle Coefficient | Distance (from initial Point-ft.) | Width | Depth (ft.) | Observation Depth | Revs. | Interval Time - in seconds | At Point | М | (f/s) ean in Ver- cat | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (c |
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| Missouri WBID #: | 1710 | | Site Location Desc | ription(27 | 38136/4 | 2690201 | |
|-------------------------|-----------------------|-----|----------------------|----------------|------------------|--|--------------|
| Site Lat/Long: 184 NM + | 33-0737737 | 1+2 | 69275 | 7-20 | Dune | Las Pine | |
| | 1/04 15:40 | | Facility Name: | _1 | 7-1757. 0 | 15. 15. 4. 5. 7. T. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. | |
| Personnel: N.M./ | | | Permit Number: | | | | |
| Current Weather Cond | itions: Clowy | Ţ | Weather Condition | ns for Past 7 | days: (| Diercust. | |
| Photo Ids: Upstream: | 109 Down | | | | 108 \$ | 110 | Binks |
| Used Observed*: | | | | | | - , - | |
| □ Swimming | □ Skin Diving | | CUBA diving | □ Tubing | | □ Wate | Skiing |
| ☐ Wind surfing | ☐ Kayaking | | Boating | ☐ Wading | | L' Raftin | |
| ☐ Hunting | | | | None of | the above | | - |
| Describe: (include num | | | | | | | |
| evidence of recreations | al uses, etc. | | 3 | | | | |
| Survey Creu | ی | | | | | | |
| Surrounding Condition | ns*: (Mark all that p | rom | ote or impede recrea | ational uses. | Attach pho | tos of evide | nce or |
| □ City/county parks | ☐ Playgrounds | | MDC conservatio | n 🛚 🗓 Urbai | n areas | □ Campa | grounds |
| ☐ Boating accesses | □ State parks | 0 | National forests | □ Natu | re trails | ☐ Stairs/ | walkway |
| L'No trespass sign | ▼ Fence | X | Steep slopes | □ Othe | | | |
| Evidence of Human U | se*: | | | 1. | | | • |
| □Roads | □ Foot paths/print | s | ☐ Dock/platform | | tock Watering | □ RV/AT | V Tracks |
| □ Rope swings | ☐ Camping Si | tes | ☐ Fire pit/ring | □ NPDE | | □ Fishin | g Tackle |
| □ Other: | | | | | | · | |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

| Stream Moi | phology: View Physical Dime | ensions: | | <u>,</u> | |
|---------------------|---|---------------------------------------|-----------------------|------------------------|--|
| K Riffle | Width(ft) (c) | Length(ft) ス | Ave. Depth(f | t) 0,4 Max | Depth(ft) 💋 . 🖇 🔠 |
| Run | Width(ft) | Length(ft) | Ave. Depth(fi |) Max | . Depth(ft) |
| □ Pool | Width(ft) | Length(ft) | Ave. Depth(ft | :) <u>Max</u> | . Depth(ft) |
| ≱ Flow | Present? (Y | No No | Estimated (ft | ³ /sec): 10 | |
| Downstre | am View Physical D | mensions: | | | |
| ⊠ Riffle | Width(ft)_ <i>りひ</i> | Length(ft) 5 | Ave. Depth(f | | k. Depth(ft) ひ, フ |
| □ Run | Width(ft) | Length(ft) | Ave. Depth(f | <u> </u> | . Depth(ft) |
| ☐ Pool | Width(ft) | Length(ft) | Ave. Depth(fi | t) Max | . Depth(ft) |
| ≱ Flow | Present? (Y | es) No | Estimated (fi | t³/sec): | |
| | *: (These values sho | · · · · · · · · · · · · · · · · · · · | | • 0/ hau di | Ilay %Bedrock |
| 50 %Col | oble 5 <u>0</u> %G | avel %: | Sand %Sil | t %Mud/C | lay Yobedrock |
| Aquatic \ | /egetation*: (note a Some be | | tion or algal grow | th at the assess | ment site) |
| Water Ch | naracteristics*: (Mar | | 7 | | |
| Odor: | : Sewage | ☐ Musky | ☐ Chemical | ⊠ None | ☐ Other |
| Color: | ⊠ ` Clear | □ Green | ☐ Gray | □ Milky | ☐ Ot <u>her</u> |
| Bottom Deposit: | Sludge | ☐ Solids | ☐ Fine sediments | ⊠ None | □ Other |
| Surface Deposit: | 11 Oil | □ Scum | □ Foam | ≱ None | □ Other |
| Comments | : Please attach addi | tional comments | s (including inform | nation from inte | rviews) to this form. |
| more compr | ehensive understandi. Iecision on the recrea | ng of water condit | tions. Consequently | , this information | ut rather is to provide a is not intended to directly further analysis or that |
| datasheet i | s true and accurate. | | _ | | on reported on this UAA |
| Signed: | on: Mic umore | hhenny Di | ate: 10/21, | le4 | |
| Organizatio | on: MEC langue | Resources P | osition: <u>Evenu</u> | NIMENTAL - | SPECIALIST |

Appendix A River des Peres Site Photographs

Site #20. Upstream View



Site #20. Downstream View



Site #21. Upstream View



Site #21. Downstream View



Date/Time: 10/21/04 1540 Site/Transect ID Number: T-20 End Time: /6'00 Measured by: NM/CL Air Temp: 55°F Weather Cond: Cloudy Stream Morphology Between Transects Length of Pools Length of Run Length of Riffles Start GPS Start GPS ft. End GPS # Start GPS # End GPS # fŧ. End GPS # 2 7 8 9 10 11 12 13 14 Stream Morphology At Transect LDB Angle: _____ RDB Angle: Secchi (ft) Turbidity (NTU): <u> 50</u> Gravel <u>50</u> Sand___ Channel Comp (%): Cobble Silt Bank Compostion Concrete Rock Riparian Corridor Density: Width of Riparian Area: Compostion of Riparian Vegitation: General Observations: Stream Discharge Measurements Beginning Stage Ending Stage: Total Q: _____ Average Velocity: Total Area: Channel Width: Distance from Datum to Water Surface: Start:

Data Coll. Type: Aqua Calc Sheet

Meas. type: Price AA Pygmy

Aqua Calc Transect #:

| | | | | | Str <u>e</u> : | am Dis | scha | rge Mea | sure | ment | <u>s</u> | | | | |
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| Time | Station # | Angle Coefficient | Distance (from initial Point-ft.) | Width | Depth (ft.) | Observation Depth | Revs. | interval Time - In seconds | At Po | | Mean in \ | /er- | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (cf |
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| | | <u> </u> | 19 | | 0.4 | | | | \bot | | | | <u> </u> | | <u> </u> |
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| | <u> </u> | | 31 | | 0.4 | | <u> </u> | | + | | | | ļ | | |
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| Missouri WBID #: | <u> </u> | . — | Cita Logation Desc | | · · · · · · · · · · · · · · · · · · · |
|-----------------------------|---------------------------------------|----------------|-------------------------------|--------------------------|---------------------------------------|
| Site Lat/Long: 67-383 | 1210 | | Site Location Desc | | |
| Date & Time: 10/01/0 | 13/4268839 | - | Facility Name | Peres - 21 | |
| Personnel: Nu /c c | 4 16.05 | - † | Facility Name: Permit Number: | · | |
| Current Weather Cond | itions: Co. A. | | | f D 1 | 0 |
| Photo Ids: Upstream: | | ctro | Weather Condition am: 07/5 | | Cloudy |
| Vic 5 # 12 -20 | DOWN | SUIC | ann. 07/5 | Other: 6/12 4 | 0114 Banks |
| Used Observed*: | | | | | |
| ☐ Swimming | □ Skin Diving | | SCUBA diving | ☐ Tubing | ☐ Water Skiing |
| ☐ Wind surfing | □ Kayaking | Q | Boating | □ Wading | ☐ Rafting |
| ☐ Hunting | ☐ Trapping | | Fishing | X None of the above | Other |
| Describe: (include num | ber of individuals | recr | eating, frequency of | of use, photo-docume | ntation of |
| evidence of recreations | al uses, etc. | | , , | | |
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| | | | | | |
| Surrounding Condition | ns*: (Mark all that p | rom | ote or impede recrea | itional uses. Attach phi | otos of evidence or |
| unusual items of interest.) | · · · · · · · · · · · · · · · · · · · | _ | · | <u> </u> | |
| □ Citylcounty parks | │ □ Playgrounds | | MDC conservatio | n X Urban areas | ☐ Campgrounds |
| □ Posting ======= | [7] Charles and | | lands | <u> </u> | |
| ☐ Boating accesses | ☐ State parks | | National forests | ☐ Nature trails | Stairs/walkway |
| □No trespass sign | <u> Æ</u> Fence | Į. | Steep slopes | S Other: Twels | mal. |
| Evidence of Human U | se*: | | | | |
| ∏Roads | ∃Foot | | □ Dock/platform | □ Livestock | ☐ RV/ATV Tracks |
| | paths/print | S | | Watering | |
| ☐ Rope swings | ☐ Camping Si | tes | ☐ Fire pit/ring | G NPDES | ☐ Fishing Tackle |
| | | | | Discharge | |
| ∃Other: | | | | <u> </u> | |
| | | | | | |
| ∃Other: | | | | , biscilai ge | |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

| Stream Morph Upstream Vi | iology: iew Physical Dimens | sions: | <u> </u> | | |
|-----------------------------|--|---------------------------------------|-------------------------|--------------------|---|
| Æ Riffle | Width(ft) // O | Length(ft) らのむ | Ave. Depth(ft) | <u>0.4</u> Max.[| Depth(ft) C.7 |
| ☐ Run | Width(ft) | Length(ft) | Ave. Depth(ft) | Max. D | epth(ft) |
| ☐ Pool | Width(ft) | Length(ft) | Ave. Depth(ft) | Max. C | Pepth(ft) |
| 区 Flow | Present? Yes | No No | Estimated (ft³/s | ec): @ /C |) |
| Downstream | n View Physical Dim | | | | |
| ▼ Riffle | Width(ft) アノロ | Length(ft) 500 | Ave. Depth(ft) | | Depth(ft) |
| Run | Width(ft) | Length(ft) | Ave. Depth(ft) | | Depth(ft) |
| ☐ Pool | Width(ft) | Length(ft) | Ave. Depth(ft) | Max. [| Depth(ft) |
| ∫⊠ Flow | Present? Yes | No | Estimated (ft³/s | ec): 🕢 🖊 🕜 | |
| Substrate*: | (These values shoul | d add up <u>to 100%</u> | ») | | |
| SC %Cobbl | le ノン %Grav | rel %San | d – %Silt | - %Mud/Cla | y – %Bedrock |
| Aquatic Ve | g etation*: (note amo | ount of vegetatio | n or algal growth | at the assessm | ent site) |
| Sense. | brithe algo | Ϋ (| | | |
| | • | | | | |
| Odor: | acteristics*: (Mark a ☐ Sewage | | | ∆ None | _ Other |
| Color: | y Clear | · · · · · · · · · · · · · · · · · · · | ☐ Gray | ☐ Milky | ☐ Other |
| Bottom | ☐ Sludge | · + | <u>□ 0.09</u> □ Fine | 2 None | ☐ Other |
| Deposit: | Siduge | 501143 | sediments | 2.10110 | |
| Surface Deposit: | Ci Oil | □ Scum | ☐ Foam | None | □ Other |
| | lease attach additio | nal comments (ir | ncluding informat | ion from interv | iews) to this form. |
| more compreh- | ision on the recreatio | of water condition | is. Consequently, th | nis information is | rather is to provide a not intended to directly irther analysis or that |
| | gned, hereby affirm rue and accurate. | to the best of my | / knowledge, that | all information | reported on this UAA |
| Signed: A | mez water Re | Date | :_10/21/ | <u> </u> | |
| Organization: | MIZ WHITER RE | Seurcés Posi | tion: <u>Epocktiva</u> | WIAL SPORC | 14455 |

Stream Morphology & Discharge Measurements

| | Start Time: | 16:05 | | | | | | End Time: | 16:20 | <u> </u> |
|------------------|-------------------|-------------------|---------------|---------------|--------------|---------------|---------------|--|----------------|---------------|
| | | NM/CL | | | | | W | eather Cond: | Cloud | 4 |
| Paret | GPS - 183 | - | Stream M | orpholo | gy Betwe | en Transe | ects | | | |
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| | | | | | | Transect | | | | |
| LD | B Angle: | | RDB Angle: _ | | ; | Secchi (ft) _ | | Turb | idity (NTU): _ | - |
| Channel Co | omp (%): | Cobble | 20 | Genual | 60 | Cond | | | | , <u>-</u> -, |
| | | _ | | Graver | | Sand_ | | _ Silt_ | | |
| | <u>.</u> | Other | | | | <u></u> _ | | | , <u></u> | |
| Bank Com | postion | | | . | | | <u>_</u> | _ | | |
| Riparian Co | orridor Density; | Width of Rip | arian Area: | <u> </u> | | · . | | | | |
| | - | | _ | | | | | | | |
| | | Compostion | of Riparian \ | egitation; | <u> </u> | | <u>.</u> | | ··· | |
| General Q | bservations: | · | | | | | | | ; | |
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| | | | Strear | n Discha | rge Meas | rements | | | . | |
| Beginn | ing Stage | | | | | | | Total O | | |
| _ | hannel Width: | | | Area: | | | Avera | ge Velocity: | | |
| Dis | stance from Datur | n to Water Surfac | | Start: | | | | End: | - | |
| | Meas. type: | | Data Coll. 1 | | Calc Sheet | A | qua Calc T | ransect #: | <u></u> | |

| | | | | | Stre | am Di | scha | rge Meas | uremen | is | | | |
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| Time | Station # | Angle Coefficient | Distance (from Initial Point-ft.) | Width | Depth (ft.) | Observation Depth | Revs. | Interval Time - in seconds | Velo | Mean in Vertical | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (ci |
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Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

| Missouri WBID #: | 1710 | - 1 | Site Location Descr | intion: | |
|--|---|------|---|---|--|
| Site Lat/Long: 0 738 | | | Riter Des 1 | ¹ . | |
| Date & Time: 10/21/6 | | | Facility Name: | Pres - St. JE | . |
| Personnel: No. /C. | | | Permit Number: | | · |
| Current Weather Con- | | | Weather Conditions | s for Past 7 days: | Cloudy |
| Photo Ids: Upstream | | stre | | Other: 0//6 - | |
| | | | | 9// 4 | |
| Used Observed*: | | | | | |
| □ Swimming □ | E. Skin Diving | | SCUBA diving | Tubing | ☐ Water Skiing |
| ☐ Wind surfing | ☐ Kayaking | | Boating [| 3 Wading | ☐ Rafting |
| ☐ Hunting | ☐ Trapping | [] | Fishing | None of the above | □ Other |
| Describe: (include nun | nber of individuals | recr | eating, frequency of | fuse, photo-docume | ntation of |
| evidence of recreation | al uses, etc. | | 4 . 3 | • | |
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| Surrounding Conditi | ons*: (Mark all that p | orom | ote or impede recreat | cional uses. Attach pho | tos of evidence or |
| unusual items of interest. | <u>,</u> | | | · · · · · · · · · · · · · · · · · · · | tos of evidence or |
| Surrounding Conditiunusual items of interest. DCity/county parks | ons*: (Mark all that p) | | MDC conservation | · · · · · · · · · · · · · · · · · · · | otos of evidence or Campgrounds |
| DCity/county parks |) ☐ Playgrounds | | MDC conservation lands | · , · · · · · · · · · · · · · · · · · · | |
| Unusual items of interest. □ City/county parks □ Boating accesses | ☐ Playgrounds ☐ State parks | | MDC conservation | · , · · · · · · · · · · · · · · · · · · | |
| DCity/county parks |) ☐ Playgrounds | | MDC conservation lands | □ ☑ Urban areas | ☐ Campgrounds |
| Unusual items of interest. ☐ City/county parks ☐ Boating accesses ☐ No trespass sign | ☐ Playgrounds ☐ State parks ☑ Fence | | MDC conservation lands National forests | Urban areas Nature trails | ☐ Campgrounds |
| Unusual items of interest. ☐ City/county parks ☐ Boating accesses ☐ No trespass sign Evidence of Human U | ☐ Playgrounds ☐ State parks ☑ Fence Use*: | | MDC conservation lands National forests | Urban areas Nature trails | ☐ Campgrounds |
| Unusual items of interest. ☐ City/county parks ☐ Boating accesses ☐ No trespass sign | ☐ Playgrounds ☐ State parks ☑ Fence Jse*: ☐ Foot | | MDC conservation lands National forests | Urban areas Nature trails | ☐ Campgrounds |
| Unusual items of interest. ☐ City/county parks ☐ Boating accesses ☐ No trespass sign Evidence of Human U ☐ Roads | ☐ Playgrounds ☐ State parks ☑ Fence Use*: | | MDC conservation lands National forests Steep slopes | ☐ Virban areas ☐ Nature trails ☐ Other: | □ Campgrounds □ Stairs/walkway |
| Unusual items of interest. ☐ City/county parks ☐ Boating accesses ☐ No trespass sign Evidence of Human U | ☐ Playgrounds ☐ State parks ☑ Fence Jse*: ☐ Foot | | MDC conservation lands National forests Steep slopes | ☐ Urban areas ☐ Nature trails ☐ Other: ☐ Livestock | ☐ Campgrounds ☐ Stairs/walkway ☐ RV/ATV Tracks |
| Unusual items of interest. □ City/county parks □ Boating accesses □ No trespass sign Evidence of Human U □ Roads □ Rope swings | Playgrounds ☐ State parks ☑ Fence Jse*: ☐ Foot paths/print | | MDC conservation lands National forests Steep slopes Dock/platform | Urban areas Nature trails Other: Livestock Watering | □ Campgrounds □ Stairs/walkway |
| Unusual items of interest. ☐ City/county parks ☐ Boating accesses ☐ No trespass sign Evidence of Human U ☐ Roads | Playgrounds ☐ State parks ☑ Fence Jse*: ☐ Foot paths/print | | MDC conservation lands National forests Steep slopes Dock/platform | ☐ Urban areas ☐ Nature trails ☐ Other: ☐ Livestock ☐ Watering ☐ NPDES | ☐ Campgrounds ☐ Stairs/walkway ☐ RV/ATV Tracks |

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology: Upstream View Physical Dimensions: Max. Depth(ft) Width(ft) Length(ft) Ave. Depth(ft) □ Riffle Max. Depth(ft) Length(ft) Ave. Depth(ft) □ Run Width(ft) Max. Depth(ft) Length(ft) Ave. Depth(ft) □ Pool Width(ft) Estimated (ft³/sec): No [| Flow Present? Yes Downstream View Physical Dimensions: Max. Depth(ft) Width(ft) Ave. Depth(ft) ☐ Riffle Length(ft) Max. Depth(ft) Ave. Depth(ft) Length(ft) □ Run Width(ft) Max. Depth(ft) Ave. Depth(ft) Width(ft) Length(ft) □ Pool Estimated (ft³/sec): Present? □ Flow Yes No Substrate*: (These values should add up to 100%) - %Silt %Mud/Clay ~Bedrock %Gravel %Sand 95 %Cobble Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site) Water Characteristics*: (Mark all that apply.) 7 Sewage XNone Odor: i □ Musky ☐ Chemical Other Color: ☐ Milky □ Other 🔣 Clear 🕅 Green ☐ Gray **Bottom** & None □ Other ☐ Sludge ☐ Solids ☐ Fine Deposit: sediments ₩. None Surface Other **▼** Foam П Deposit: Comments: Please attach additional comments (including information from interviews) to this form. *This information is not to be used solely for removal of whole body contact recreation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use. I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate. Position: ENCHONIMENTAL SPECIALIST

Appendix A River des Peres Site Photographs

Site #22. Upstream View



Site #22. Downstream View



Stream Morphology & Discharge Measurements

Project Name/Number: <u>NSV - VAA</u>

Date/Time: <u>10/21/64</u>

Site/Transect ID Number: <u>22</u>

| l | Start Tir | me: <u>/</u> | 20 | | | | | | End Time: | 16:30 | |
|----------|---------------|---------------------|--------------|---|-------------|---------------|----------------|------------|----------------|--|-------------|
| | | | | Air | Temp: | 59°F | | We | ather Cond: | Movely. | |
| 625 | -186 | | | Stream M | lorpholo | gy Betwe | en Transe | ects | | · · · / Wo o - · · · · · · · · · · · · · · · · · | |
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| 1 | LDB Angle: _ | | | RDB Angle: _ | | - | Secchi (ft) | <u></u> | _ Turi | oidity (NTU): | |
| Channel | Comp (%): | | Cobble | 95 | Gravel | 5 | Sand_ | | Silt | | |
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| | | | Other | | a / | | | | | | |
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| Time | Station # | Angle Coefficient | Distance (from initial Point-ft.) | Width | Depth (ft.) | Observation Depth | Revs. | Interval Time - in seconds | At Point | Mean in Ver- | Adjusted for Hor. Angle | Section Area (ft.²) | Section Discharge (cfs |
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